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# *DevOps Fundamentals*

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## Topics

- What Is DevOps
- Defining DevOps
- The History of DevOps
- The DevOps Full Stack
- The Urgency for DevOps
- The Business Value Delivery Problem
- Dimensions of Business Value
- External Drivers of Change
- The Organizational Goals of DevOps
- The IT Value Delivery Problem
- IT & Silos
- The Negative Influence of Bureaucracy
- Complex Processes Result in Waste
- A Big Shift is Required
- IT Downward Spiral
- IT & DevOps
- Key DevOps Principles & Concepts

- C.A.L.M.S. & The Three Ways
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- The Three Ways
- The Deployment Pipeline
- Continuous Delivery Across the Deployment Pipeline
- The Scope of DevOps
- DevOps Transforms People & Culture
- DevOps Transforms Processes & Practices
- DevOps Transforms Technology & Automation
- The Full Stack – People & Culture
- Defining the DevOps Culture
- Organizational Culture
- Importance of Collaboration
- Transformational Leadership
- What is Transformational Leadership
- Transformation Leadership Principles
- Teams
- DevOps Structures & Teaming
- Organizational Models for DevOps
- The Evolution of DevOps Teams
- DevOps Requires Practical Specialists

- A Shift to Product & Platform Teams
- Building a Cross-Functional Team
- DevOps and Other Methodologies
- The 15 Essential Practices of DevOps
- Voice of The Customer
- Relationship Management
- Lean Process Optimization
- Value Stream Mapping
- Knowledge Management
- Visual Management
- Agile Project Management & Scrum
- Shift Left Testing
- Change Control
- Service Configuration Management
- Release & Deployment Management
- Incident Management
- Problem Management & Kaizen
- Continual Improvement
- Antifragility
- The Full Stack – Technology & Automation
- Automation for the Deployment Pipeline

- Automation & The Full Stack
- Deployment Pipeline Automation
- Tools for A DevOps Toolchain
- Stages of DevOps Automation
- Cloud Technology and Virtualization
- The Emergence of Cloud Technology & Computing
- Cloud Computing Deployment & Service Models
- Architecting for Continuous Delivery
- Product & Platform Teams
- Containerization & Microservices
- Application Programming Interfaces (APIs)