

DevOps Fundamentals *For Managers and Leaders Training*

Length: 5 Days

Course Overview: This 5-day DevOps course is loaded with practical real-world information. You will leave this course loaded with knowledge on the available people, processes, culture, and tools for DevOps, ready to select what's right for your company and to roadmap the journey for your organization. This class demystifies the fundamental shift required in culture, strategy, and execution of DevOps. It enables participants to create measurably higher performance in their organizations while solving business problems with a focus on time-to-value, shift left, and continuity.

Audience: This workshop will be particularly useful for leaders implementing or considering DevOps for their organization including the following:

- Anyone in an IT Leadership role
- CIOs / CTOs
- Lead System Administrators
- Software Reliability Engineers
- ScrumMasters
- Software Managers and Team Leads
- IT Project & Program Managers
- Product Owners and Managers

Topics:

- Case studies
- Toolchains
- Build & release management
- Agility & sustainability
- CI/CD
- Continuous quality
- DevOps cloud & virtualization
- Automation & scripting
- Configuration management
- Monitoring strategy
- Measurement
- KPIs for success
- Workforce Strategy

What You Will Learn: After completing this course, the student should be able to:

- Confidently design a DevOps roadmap for your organization.

- Understand the various key components.
- Communication and evangelization of your DevOps progress.
- How automation is key to success
- Understand the key components; tools, processes, and people required
- Apply the knowledge to improve reliability of build & release processes
- Become literate in the vernacular of DevOps
- Learn the metrics and analytics that provide understanding of your organizational maturity
- Monitor your team and application lifecycle management effectiveness
- Understand how to create a culture that supports technology-enabled business
- Apply technology, people and process to shift left
- Map out the workforce strategy required for organizational success
- Compare other organizational journeys in DevOps to understand options and approaches

Prerequisites: A desire to learn how to successfully implement DevOps in your organization.

COURSE CONTENT

DEVOPS JOURNEY

- Why DevOps?
- What is DevOps?
- History of DevOps
- Cross-functional teams
- Key components of successful DevOps
- DevOps vocabulary
- DevOps goals
- Driving business outcomes with DevOps
- Technology-enabled business
- DevOps key enabler for Digital Transformation

CULTURAL ALIGNMENT

- Leading the Charge
- Core Values and Mission
- Communication
- Collaboration
- Value Stream Mapping
- Behavioral Patterns
- Cultural Assessment

- Organization Maturity
- Education Roadmap
- DevOps Org Structures

CONTINUOUS INTEGRATION & DELIVERY

- What does continuous delivery mean?
- What is continuous integration?
- Project methodologies
- Measuring your organizational maturity
- Tool selection
- IT organization structure
- Business continuity
- Supportability and sustainability
- Summary

CONTINUOUS INTEGRATION TOOLS

- Challenges solved by CI Tools
 - CI testing tools
 - Atomic integration
 - CI Flows and Features
 - CI Backed by VCS
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- Introduction to Jenkins
- Introduction to TeamCity
- Introduction to CruiseControl
- Comparison

MONITORING

- Continuous monitoring
- How to monitor?
- Toolchains
- Why to monitor?
- Monitoring strategy
- Managing incidents
- Cloud monitoring
- Infrastructure monitoring
- Monitoring across the stack
- Introduction to Splunk
- Introduction to Nagios
- Introduction to ELK
- Introduction to Dynatrace

MEASUREMENT

- What to measure?
- How to measure?
- Why to measure?
- Choosing the right metrics
- What are your key performance indicators?
- Actionable insight
- Software quality
- Top 5 metrics

AUTOMATION SCRIPTING

- Why automate?
- Goals for scripting
- Error handling
- Logging
- Automating versioned builds
- Automating continuous integration tests
- Automated cleanup
- Shell scripting
- Python
- Ruby

AGILE

- History of Agile
- Scrum: History of an Agile Methodology
- Scrum: In a Nutshell
- Sprint0
- Managing sprints
- Maintaining the DevOps backlog
- Working with story points
- User stories
- Distributed agile for DevOps
- Kaizen
- Kanban
- Introduction to Jira
- Introduction to Rally

BUILDING TOOLS

- Build tool history
- Build automation processes
- Repeatability
- Notification
- Continuous build
- Build dependencies
- Introduction to Ant
- Introduction to MSBuild
- Introduction to Maven
- Introduction to Gradle

CONFIGURATION MANAGEMENT

- Why is configuration management key to DevOps success?
- What is configuration management
- Terminology
- Automation tool comparison
- Introduction to Chef
- Introduction to Ansible
- Introduction to Containerization
- How does Docker or Vagrant fit with CM tools?
- Cloud integration

CONTINUOUS CODE QUALITY

- Understanding Continuous Code Quality
 - Driven Design
 - Shift Left
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- Technical Debt
- Static Code Analysis
- Seven Axes of Quality
- Understanding SonarQube
- Benefits of Code Analysis

DEVOPS DBA

- Where does DevOps intersect with DB
- Change management
- DevOps DBA patterns for success
- DBA roles in DevOps
- Alignment & Inclusion

