



# Secure DevOps

DevOps is a modern software development approach that strives to bring development and operations teams together to improve efficiency and outcomes by focusing on shared business goals. DevOps follows and expands on key principles of the Agile software development and Lean engineering movements and represents a fundamental shift in how large, distributed enterprise organizations develop and deliver software.

By cultivating cross-functional collective engagement in software development projects throughout the software development lifecycle (SDLC), DevOps affects the people, processes, and technology of an organization. DevOps also requires adopting and implementing cutting-edge practices based on the primary tenants of collaborative culture, automation, data-driven processes, infrastructure as code, and ubiquitous, real-time system monitoring.

## The features and benefits of DevOps include



**Consistently** develop software systems with higher quality and accuracy of project budgeting and estimation



**Increase visibility** and stakeholder input into features for the next release as it is being developed



**Engage** stakeholders early and consistently throughout the SDLC, leading to fewer defects and incorrect requirements



**Build** trust between software development and IT, enabling organic process improvement and risk mitigation



**Maximize business value** by enabling technical staff to adapt to changing requirements or environmental factors



## How We Can Help

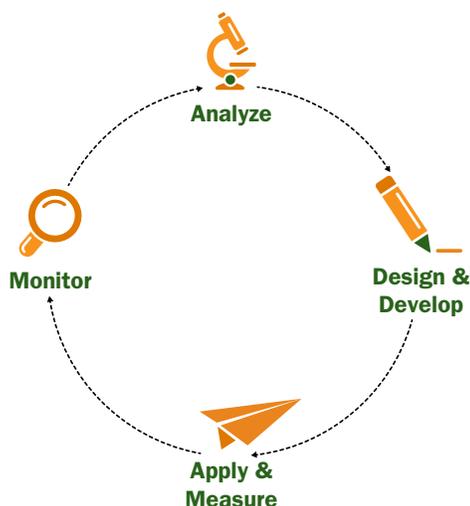
We help you establish robust DevOps capabilities by following a process in which we do the following.

**Analyze** – Analyze your organization’s business goals, processes, and development/operational challenges to assess the status quo, bottlenecks, and areas that could get maximum impact from process improvement efforts.

**Design and Develop** – Develop a customized strategy and roadmap to improve your organization’s culture, processes, and tools to support its business needs and improve its software development quality, transparency, and delivery while decreasing its risk.

**Apply and Measure** – Provide tools and methods for your organization to enable its process measurement capabilities. Apply a process improvement strategy according to the developed roadmap and measure the quantitative impact of DevOps on metrics for collaboration, quality, transparency, and process efficiency.

**Monitor** – Enable your organization’s development managers and teams to independently monitor DevOps practices and engage in continuous data-driven improvements to tools and methods according to your organization’s unique needs.



## DevOps Solutions

We offer the following solutions to help you develop a robust DevOps capability in your organization.

### Training

We provide onsite or virtual courses that teach DevOps to managers, technical teams, and other stakeholder groups. We also offer advanced, hands-on DevOps training for development and operational teams.

### Workshops

We conduct customized, hands-on workshops that provide comprehensive practical training, including exercises using DevOps tools and techniques throughout the SDLC, from inception to production.

### Mentoring

By collaborating closely with teams and stakeholders, we assist in establishing practical guidelines to improve existing DevOps strategies and enhance collaboration among organizational teams.

### Engineering Support

Our highly experienced engineers help you implement and measure your organization’s DevOps tools and processes.

## About Us

For nearly 30 years, the CERT Division of the Software Engineering Institute at Carnegie Mellon University has been a leader in cybersecurity. Originally focused on incident response, we have expanded into cybersecurity areas such as network situational awareness, malicious code analysis, secure coding, resilience management, insider threats, digital investigations and intelligence, workforce development, DevOps, forensics, software assurance, vulnerability discovery and analysis, and risk management.

## Contact Us

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