

Foundations of DevOps

Duration

In-person: 2 Days

LiveOnline: 3 sessions of 4.5 hours each

Intended for

- Managers
- Team members
- Anyone wanting to understand the case for and potential of DevOps
- Anyone looking to understand their role and practices in a DevOps environment
- Anyone wanting to know what changes to start making to prepare for DevOps.

Prerequisites

We recommend that you have completed some formal Agile training, such as our Agile Fundamentals course.



In solving one problem, Agile has created a new bottleneck at the interface between development and operations teams, each having very different goals. DevOps has evolved as a way to bring these two teams together and accelerate the delivery of value to the users and customers.

This course provides an overview of DevOps, including its history, the cultural changes required to effectively apply DevOps, and the practices that support the goals of DevOps. We explore continuous integration (CI), continuous delivery (CD), and the deployment pipeline that lies at the heart of DevOps.

Learning Outcomes

By the end of this course you will understand:

- The background and mindset of DevOps.
- The practices of version control and configuration management that support DevOps.
- How test automation supports DevOps.
- The essentials of continuous integration (CI).
- The principles and practices of continuous delivery (CD).
- The deployment pipeline and its purpose.
- The challenges and support for managing infrastructure and databases.
- What changes to start making when first starting out with DevOps.

Content

• Introduction to DevOps

This module looks at the problems and needs that led to the rise of DevOps, and what DevOps is (and is not). It looks at what we can start doing now to prepare for DevOps and the cultural challenges that will be faced when trying to apply DevOps effectively.

• Supporting Practices:

- Version control
An effective version control strategy is essential to DevOps. The dangers of branching are discussed, along with the growing trend to performing all development on the trunk/mainline.
- Automated testing
To streamline the path from development to deployment, the testing process must be sufficient to give the team confidence that the software is of suitable quality. This module looks at the different types of tests, what can be automated, and how they can work together to give us that confidence.
- Continuous integration
with good version control and testing strategies in place, continuous integration is the key enabler of the deployment pipeline. Established good practices to support continuous integration and continuous delivery are discussed.

Foundations of DevOps

- **Continuous delivery:**

- Principles
Exploring how continuous delivery builds on continuous integration, this module looks at the key concepts of continuous delivery, including the mindset and some of the cultural changes needed.
- Practices
This module looks at the various practices that have evolved to support the goals of continuous delivery, including those to support the challenges of managing the configuration of the software across multiple environments.

- **Deployment pipeline**

The deployment pipeline lies at the heart of DevOps. This module discusses the nature and role of the pipeline.

- **Managing the Environment:**

- Infrastructure
Automating the deployment process is not the end of the road for DevOps. This module looks at the issues around automating the provisioning of environments, as well as monitoring systems after deployment.
- Databases
Deploying and upgrading databases and their schemas poses several problems that are discussed.

Method Used

This is an interactive course using group discussions and paper-based exercises to understand the concepts and how they can be applied to the participants' individual circumstances.

Delivery

This program is offered as a classroom-based course as well as a LiveOnline program. Our LiveOnline delivery is over three days (each four and a half hours in duration). The instructor is 100% live and interaction and learning objectives are the same as our in-person classes with the added benefit of being able to take this course from your home, your office or your home office. Since this class is delivered over half-days it allows for greater flexibility and leaves you with time each day for other work or activities.