

## DevOps – Master Certificate Program

### Course Summary

#### Description

This certification focuses on adding practical skills to knowledge, enabling a DevOps Master to facilitate DevOps successfully in a team and to promote its principles in the organization. DevOps is a set of best practices that emphasize the collaboration and communication of IT-professionals (developers, operators, and support staff) in the lifecycle of applications and services, leading to:

- Continuous Integration: easy hand-off from Development to Operations and Support
- Continuous Deployment: release continuously or as often as possible
- Continuous Feedback: seek feedback from stakeholders during all lifecycle stages

The DevOps Master certification tests the candidate's mastering of DevOps principles and skills. A DevOps Master is able to help facilitate an organization's transition to DevOps and grow the business in a way that brings the most value to a customer.

This course is a forty (40) hour training course with exam preparation review over 5 days. The examination type is computer-based multiple choice (exam voucher will be issued to students at the end of the course upon completion of the course training & course practical assignments). There will be a 2-week expiry date on the exam voucher to enable additional preparation time after the course and to encourage students to complete their exam while the training content is still recent. Examination details:

- Number of questions: 50
- Pass mark: 65%
- Open book/notes: No
- Electronic equipment/aides permitted: No
- Time allotted for examination: 120 minutes

Program Material (handout):

- DevOps – The Basics (pre-class resource)
- Learner Manual (excellent post-class reference)
- Participation in unique exercises designed to apply concepts
- Access to additional sources of information and communities

This course is offered in an instructor led classroom environment at a maximum of 16 students per session. It can also be virtual, web-based. The course delivery can be customized to fit learner requirements, for example: 1 day per week over 5 weeks, etc.

#### Objectives

After taking this course, students will be able to understand:

- DevOps Fundamentals
  - Unique to DevOps Master course to best prepare the learner for this DevOps Master level training
- DevOps Adoption
  - DevOps Mindset and Benefits
  - Organizational Culture
  - Principles & Concepts

## DevOps – Master Certificate Program

### Course Summary (cont'd)

- Planning, Requirements and Design
  - Application or Service Lifecycle Management
  - Project Charter (Defining Scope) & Visual Control
  - Infrastructure and Architecture Design
  - Service Level Requirements and Agreements
  - Implementing a Testing Strategy: User Story, Test Story and Operation Story
- Development and Deployment
  - Continuous Delivery & Continuous Integration
  - Deployment Pipeline
  - Continuous Deployment
  - Ji-Kotei-Kanketsu, Rhythm, Work-in-Progress and One-piece-flow
  - Automation, Tools and Testing
- Operation and Scaling
  - Managing Data; Infrastructure and Environments; and Components and Dependencies
  - Configuration Management and Version Control
  - Cloud and Immutable Infrastructure
  - Business Continuity
  - Scaling
- End of Life
  - Conditions for End-of-Life of a product or service

#### Topics

- DevOps Fundamentals
- DevOps Adoption
- Planning, Requirements and Design
- Development and Deployment
- Operation and Scaling
- End of Life
- DevOps Master exam preparation

#### Audience

The DevOps Master certification is meant for anyone working within a DevOps team or in an organization that considers the transition to a DevOps way of working. The target group includes:

- Application or Service Developers and Product Owners
- Agile Scrum Masters
- Project Managers
- Test Engineers
- Test Managers
- IT Service Managers
- IT Operations
- Process Managers
- Lean IT Practitioners

#### Prerequisites

The candidates are expected to have basic knowledge of DevOps principles, IT Service Management, Lean and Agile concepts. An overview of this basic knowledge is incorporated into the EXIN DevOps Master training curriculum.

## DevOps – Master Certificate Program

### Course Summary (cont'd)

It is highly recommended that the students pre-read the following supporting text prior to attending this course:

- **The Phoenix Project**, Gene Kim, Kevin Behr, George Spafford, ISBN-10: 0988262576, ISBN-13: 978-0988262577, IT Revolution Press (January 10, 2013)
- **Effective DevOps: Building a Culture of Collaboration, Affinity, and Tooling at Scale**, Jennifer Davis, Katherine Daniels, ISBN-13: 978-1491926307, ISBN-10: 1491926309, O'Reilly Media; 1 edition (June 25, 2016)
- **Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation**, Jez Humble, David Farley, ISBN-13: 978-0321601919, ISBN-10: 0321601912, Addison-Wesley Professional; 1 edition (August 6, 2010)
- **Success with Enterprise DevOps** (copy provided in course material), Koichiro (Luke) Toda, President Strategic Staff Services Corporation and Director of TPS Certificate Institution, Nobuyuki Mitsui, CTO of Strategic Staff Services Corporation White Paper; June 2016 (free download from EXIN DevOps Master product page: <https://www.exin.com/NL/en/certifications/&exam=exin-devops-master>)
- **The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations**, Gene Kim, Jez Humble, Patrick Debois, John Willis, ISBN-10: 1942788002, ISBN-13: 978-1942788003, IT Revolution Press; 1 edition (2016)
- Other sources: <http://newrelic.com/devops> and <http://devops.com/>

Prerequisites for the exam include EXIN DevOps Master accredited training completion and successful completion of the DevOps Master practical assignments.

Because this certification is on an advanced level, some knowledge of or experience in the domains where DevOps is applied is highly recommended:

- Agile / Agile Scrum: [www.agilealliance.org](http://www.agilealliance.org) and [www.scrumalliance.org](http://www.scrumalliance.org)
- Lean IT: [https://www.-technology.com/courses/lean\\_it](https://www.-technology.com/courses/lean_it)
- DevOps Foundation: [https://www.-technology.com/courses/dev\\_ops](https://www.-technology.com/courses/dev_ops)
- IT Service Management: [https://www.technology.com/courses/itil\\_fo\\_foundation\\_program\\_en#](https://www.technology.com/courses/itil_fo_foundation_program_en#)

#### Duration

Five days

## **Title DevOps – Master Certificate Program**

### **Course Outline**

- I. Necessary basic DevOps concepts and theory:
  - A. DevOps Fundamentals
- II. DevOps Master concepts and theory:
  - A. DevOps Adoption
  - B. Planning, Requirements and Design
  - C. Development and Deployment
  - D. Operation and Scaling
  - E. End of Life
- III. DevOps Master exam preparation
- IV. DevOps Master practical assignments (completed in training course classroom and as homework assignments)