



D A S A

DEVOPS AGILE  
SKILLS ASSOCIATION

# DEVOPS, EVERYONE'S TALKING ABOUT IT, BUT HOW DO YOU DO IT?

Interested in understanding how DASA  
can provide you and your team the  
Skills and Knowledge needed for your  
IT Transformational Journey?



DASA

DEVOPS AGILE  
SKILLS ASSOCIATION

# WHY A DEVOPS AGILE SKILLS ASSOCIATION?

DASA is an independent and open association supporting the development of **high-performance IT organizations** through agile DevOps initiatives. DASA offers thought leadership as well as practical guidance for competence development for professionals and organizations.

## To Realize its Broader Purpose, DASA aims to:

- Promote a knowledge and skills framework for DevOps, based on a defined set of principles.
- Develop and evangelize a vendor neutral DevOps qualification program for professionals.
- Generate interest and awareness for the need for knowledge and skill development.
- Advance quality of training and open source certification for DevOps knowledge and skills.
- Map member training content to the role based competence baseline.

# DASA DEVOPS PRINCIPLES

## DEVOPS IS ABOUT EXPERIENCES, IDEAS AND CULTURE TO CREATE HIGH-PERFORMING IT ORGANIZATIONS

Many definitions of DevOps exist, and many of them adequately explain one or more aspects that are important to find flow in the delivery of IT services. Instead of trying to state a comprehensive definition on our own, we prefer highlighting six principles we deem essential when adopting or migrating to a DevOps way of working.

### 1. CUSTOMER-CENTRIC ACTION

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It is imperative nowadays to have short feedback loops with real customers and end-users, and that all activity in building IT products and services centers around these clients. To be able to meet these customers' requirements, DevOps organizations require the guts to act as lean startups that innovate continuously, pivot when an individual strategy is not (or no longer) working, and constantly invests in products and services that will receive a maximum level of customer delight.

### 2. CREATE WITH THE END IN MIND

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Organizations need to let go of waterfall and process-oriented models where each unit or individual works only for a particular role/function, without overseeing the complete picture. They need to act as **product companies** that explicitly focus on building working products sold to real customers, and all employees need to share the engineering mindset that is required actually to envision and realize those products.

### 3. END-TO-END RESPONSIBILITY

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Where traditional organizations develop IT solutions and then hand them over to Operations to deploy and maintain these solutions, in a DevOps environment teams are vertically organized such that they are fully accountable from **concept to grave**. IT products or services created and delivered by these teams remain under the responsibility of these stable groups. These teams also provide performance support, until they become end-of-life, which greatly enhances the level of responsibility felt and the quality of the products engineered.



## 4. CROSS-FUNCTIONAL AUTONOMOUS TEAMS

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In product organizations with vertical, fully responsible teams, these teams need to be entirely independent throughout the whole lifecycle. That requires a balanced set of skills and also highlights the need for team members with **T-shaped** all-round profiles instead of old-school IT specialists who are only knowledgeable or skilled in for example testing, requirements analysis or coding. These teams become a hotbed of personal development and growth.

## 5. CONTINUOUS IMPROVEMENT

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End-to-end responsibility also means that organizations need to adapt continuously in the light of changing circumstances (e.g. customer needs, changes in legislation, new technology becomes available). In a DevOps culture, a strong focus is put on continuous improvement to minimize waste, optimize for speed, costs and ease of delivery, and to continuously improve the products/services offered. Experimentation is therefore an important activity to embed and develop a way of learning from failures is essential. A good rule to live by in that respect is **if it hurts, do it more often**.

## 6. AUTOMATE EVERYTHING YOU CAN

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To adopt a continuous improvement culture with high cycle rates and to create an IT organization that receives instant feedback from end users or customers, many organizations have quite some waste to eliminate. Fortunately, in the past years, enormous gains in IT development and operations can be made in that respect. Think of automation of not only the software development process (continuous delivery, including continuous integration and continuous deployment) but also of the whole infrastructure landscape by building next-gen container-based cloud platforms that allow infrastructure to be versioned and treated as code as well. Automation is synonymous with the drive to renew the way in which the team delivers its services.



*In today's fast-paced, mobile-driven world the IT of yesterday needs to transform itself into a high-performance IT organization.*

*– Deborah Burton, Managing Director DASA*

# THE COMPETENCE MODEL

## HELP ORGANIZATIONS ASSESS THEIR CURRENT DEVOPS COMPETENCY GAP

DASA's competence model reflects the vision that the role of the IT engineer will become more generic as DevOps teams develop. Anyone of the crew can roughly do the job of another. The key to working in this environment is to recognize that there is a skills and knowledge set that needs to be present in every DevOps team. The distribution of these skills and knowledge may be different per team. However, each team will need to ensure that there is enough of each skill and knowledge area to ensure the service is delivered as required by the customers of the service.



1. Novice / 2. Competent / 3. Proficient / 4. Expert / 5. Master

# 12 SKILLS AND BEHAVIOR AREAS

The DASA competence model identifies 8 knowledge areas and 4 skills and behavior areas that are relevant in DevOps. Every professional operating in a DevOps team requires all 12 competencies in varying degree. This is described in the DASA professional qualification program.

## SKILL AREAS

1. **Courage:** Evangelism, coaching, self-confidence, proactivity, reflection, trust, open discussions, experimentation, fail fast, courage to change.
2. **Teambuilding:** Understand the other's point of view, collaboration, mutual accountability, common purpose, ability to integrally support the service/product.
3. **DevOps Leadership:** Facilitating teams to high performance, humility, transparency, Service lifecycle mindset, Stakeholder management.
4. **Continuous improvement:** Today we do our work better than yesterday, kaizen mindset, quality at the source, first time right, knowledge-sharing, ability to adapt.
2. **Business Analysis:** Functional requirements, non-functional requirements, longer term development of business process (based on translation of market developments), data analysis, and refinement.
3. **Architecture & Design:** Ensuring fit between developments and current situation, overall service design, patterns & styles.
4. **Programming:** Software engineering mastery, everything as code, data management.
5. **Continuous Delivery:** Automated testing, deployment and release management, configuration management, version control, cloud, containerization, feature-driven delivery.
6. **Test Specification:** Design of test cases, test concepts.

## KNOWLEDGE AREAS

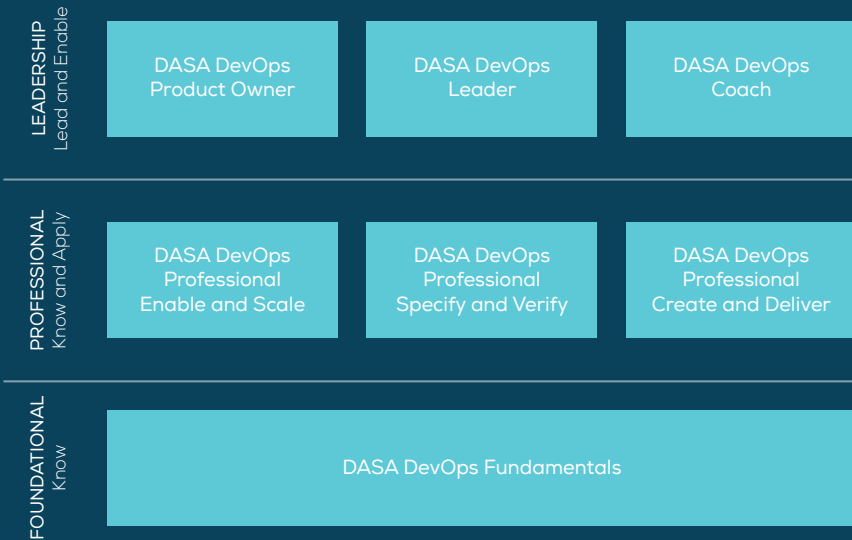
1. **Business Value Optimization:** Use of the IT service in real life, including direct feedback loop of user comments to team, service level management, definition of done, business activity/performance monitoring, business case management.
7. **Infrastructure Engineering:** Technical monitoring, performance management (e.g. load balancing etc.), capacity and availability management, reliability engineering, cloud, containerization.
8. **Security, Risk & Compliance:** Security, service continuity planning.



# DASA QUALIFICATION PROGRAM

The DASA competence model offers a maturity model of 5 levels for professionals and teams. The maturity distribution of DevOps competencies may be different per individual, however, each team will need to have sufficient competencies to ensure performance and output.

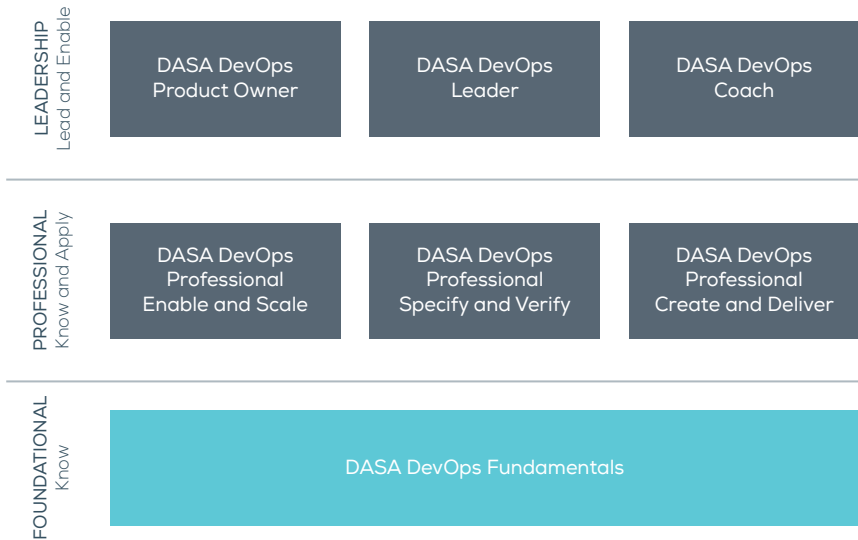
With the support of the DASA competence model and qualification program we can build and assess DevOps teams and enable organizations to win.



# DASA DEVOPS FUNDAMENTALS™

Provides an extensive introduction to the core agile DevOps principles covering the essential knowledge and skill competences that have been defined by DASA.

The DevOps Fundamentals qualification is designed to provide the core education necessary to build your DevOps vocabulary and to understand its principles and practices. With the help of key DevOps concepts and terminology, real life case studies, examples and interactive group discussions and extensive exercises in each module you will acquire a fundamental understanding of DevOps.



# HOW DOES DEVOPS FUNDAMENTALS FIT INTO THE DASA COMPETENCE FRAMEWORK?

After completing this course, you will cover the area marked as DevOps Fundamentals in the following figure of the DASA qualification scheme. As a result, you will reach the **Competent** level of the scheme.



1. Novice / 2. Competent / 3. Proficient / 4. Expert / 5. Master

## LEARNING OBJECTIVES

At the end of this course, you will be able to:

- Explain the drivers responsible for the emergence of DevOps.
- Define and discuss the key concepts and principles of DevOps.
- List and explain the business benefits of DevOps and continuous delivery.
- Describe the Service Delivery process.
- Explain the concepts of test automation, infrastructure automation, and build and deployment automation.
- Describe how DevOps relates to Lean and Agile methodologies.
- Summarize case studies of IT organizations that are making the transformation to Adaptive IT and DevOps models.
- List the most common and popular DevOps tools.
- Discuss the critical success factors for DevOps implementation.

## AUDIENCE

- Individuals involved in IT development, IT operations, or IT service management
- Individuals whose role are touched by DevOps and continuous delivery, such as the following IT roles:
  - DevOps engineers
  - Product owners
  - Integration specialists
  - Operations managers
  - Incident and change managers
  - System administrators
  - Network administrators
  - Business managers
  - Automation architects
  - Enterprise architects

*N.B. Basic familiarity with Agile, Scrum, Lean, and ITSM principles is beneficial*



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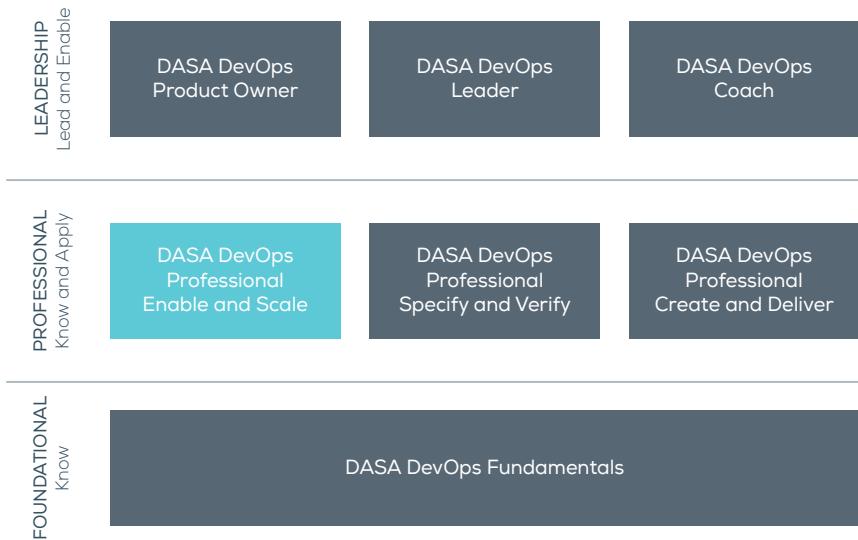
*The role of the IT engineer will become more generic as DevOps teams develop and IT people become more multi-skilled. The key to working in this environment is to recognize that a skills and knowledge set is needed on these teams.*

*– Niels Loader, Principal Consultant Quint*

# DASA DEVOPS PROFESSIONAL ENABLE AND SCALE™

Builds upon the DASA DevOps Fundamentals qualification. The key focus of DevOps Professional – Enable and Scale is on the 4 skill areas required for successful DevOps results.

The DASA DevOps Professional – Enable and Scale certification is designed to provide the core education necessary to put DevOps into practice. With the help of DevOps theory, pragmatic examples and exercises, and interactive group discussions, the course will help you understand how to apply the necessary skills to practice DevOps.



# HOW DOES DEVOPS PROFESSIONAL – ENABLE AND SCALE FIT INTO THE DASA COMPETENCE FRAMEWORK?

After completing this course, you will cover the area marked as DevOps Professional – Enable and Scale in the following figure of the DASA certification scheme. As a result, you will reach the **Proficient** level of the scheme.



1. Novice / 2. Competent / 3. Proficient / 4. Expert / 5. Master

## LEARNING OBJECTIVES

When you have acquired the required knowledge from this course, you will be able to:

- Explain the importance of DevOps culture and the aspects that can influence it.
- Explain why courage, team building, leadership, and continuous improvement are required in a DevOps environment.
- Explain why courage is essential to enable trust, honesty, and experimentation.
- Identify and evaluate different types of behavior in a DevOps environment.
- Recognize the signals indicating impediments and/or team dysfunctions.
- Describe how to form good DevOps teams.
- List the effects of happiness and motivation on team performance.
- Assess the maturity of DevOps teams.
- Identify how leaders encourage feedback and transparency.
- Discuss the factors that leaders can influence to build trust.
- Explain how and why leaders promote a "Safe to fail" environment.

- Analyze value streams to improve throughput and flow.
- Facilitate the tools for continuous improvement: structured problem-solving workshops, Story Mapping sessions, and retrospectives.

## AUDIENCE

- Individuals involved in IT development, IT operations, or IT service management
- Individuals whose role are affected by DevOps and continuous delivery, such as:
  - DevOps engineers
  - Product owners
  - Integration specialists
  - Operations managers
  - Incident and change managers
  - System administrators
  - Network administrators
  - Business managers
  - Automation architects
  - Enterprise architects

## COURSE REQUIREMENTS

**Required:** DASA DevOps Fundamentals certificate

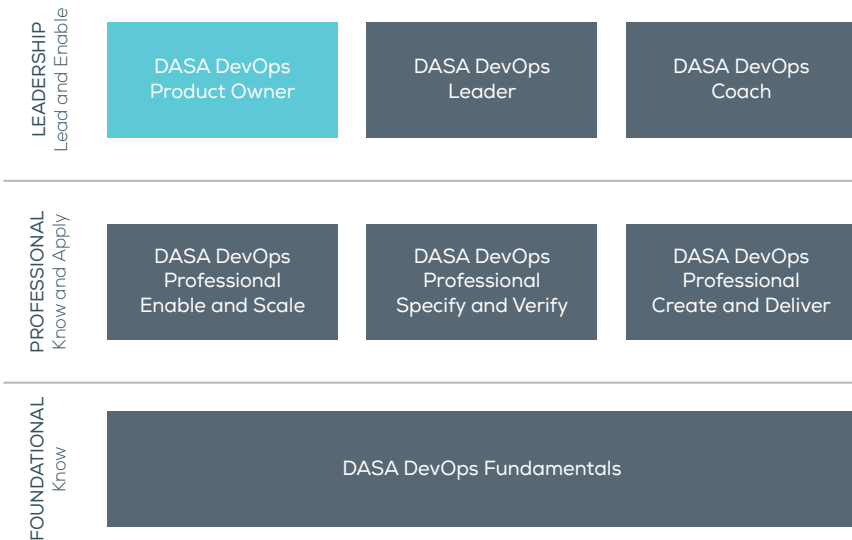
**Beneficial:** Basic familiarity with Agile, Scrum, Lean, and ITSM principles



# DASA DEVOPS PRODUCT OWNER™

In a DevOps environment, the Product Owner is a critical leadership role and responsible for managing the full lifecycle of a product from concept to grave.

The DASA DevOps Product Owner qualification extends traditional Agile Product Owner programs and deals with the extended set of requirements that the Product Owner faces when teams start to take on both Dev and Ops responsibilities. The program covers the traditional Agile and Scrum concepts and capabilities but in context of DevOps. As a result, this program is ideal for new and aspiring Product Owners and exciting for experienced Product Owners who are keen to understand how their role is evolving as a result of DevOps.



## LEARNING OBJECTIVES

When you have acquired the required knowledge from this course, you will be able to:

- Understand the concepts of Agile and Scrum.
- Understand the Scrum framework including roles, events, the importance of backlog and the definition of done.
- Understand the role of Product Owner.
- Discuss the role and characteristics of the DevOps team.
- Explain the main competencies of the Product Owner.
- Describe what a Product Owner does in practice.
- Explain the Product Owner's work.
- Discuss the importance of delivering value.
- Identify the Product Vision techniques.
- Discuss how to engage and influence stakeholders to maximize value.
- Outline various Agile estimation techniques used by Product Owners.
- Explain the role of Product Owner in managing Product Backlog.
- Discuss few challenging situations of a Product Owner.

## AUDIENCE

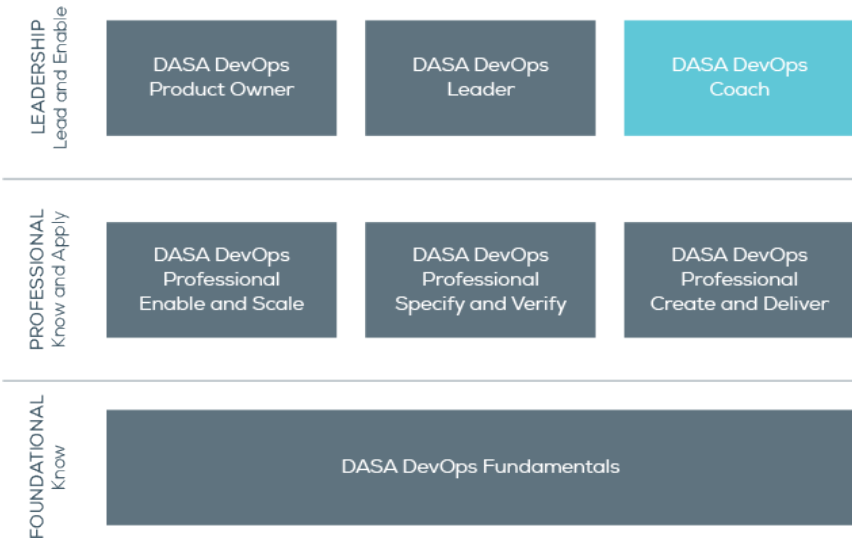
The DASA DevOps Product Owner qualification is primarily aimed at:

- Existing Product Owners without certification
- Business Project Managers
- Business Executives
- Business Managers
- Business Information Managers
- Business Analysts
- Operations Managers
- Enterprise Architects
- Course Requirements
- Basic familiarity with Agile, Scrum, and DevOps framework is beneficial

# DASA DEVOPS COACH™

The DevOps Coach inspires teams and individuals with thought-provoking and creative processes. The core focus of the DASA DevOps Coach is to enable and sustain the DevOps transformation. The DevOps Coach drives performance and is a catalyst for change, for individuals, teams and the organization.

DevOps Coaches comprehend the essence of DevOps and how to coach teams in adopting DevOps principles or overcoming challenges. DASA DevOps Coaches are familiar with various coaching models and instruments and are able to apply the best model for the organization and people at any point in time. The DevOps Coach has become a critical role in driving DevOps success and organizational performance as DevOps requires a cultural shift towards a new mindset, behaviors, and ways of working.



## LEARNING OBJECTIVES

When you have acquired the required knowledge from this DevOps Coach certification program, you will be able to:

- Recollect the knowledge of DevOps and connect the role of a DevOps Coach to the DASA DevOps Principles
- Comprehend the mindset and role of a DevOps Coach
- Understand the characteristics, structures, and life-cycles of DevOps teams and how to Coach them to high-performance
- Learn using the GROW model as an effective tool during the entire coaching process
- Discover and learn the art of “Feedback” and creating a feedback culture using various “Feedback” models
- Learn about DevOps transformation mastery
- Distinguish the responsibilities of “DevOps Coach” and “DevOps Leader”
- Understand that DASA DevOps Coaching is for continuous “Performance” and “Change” – and understand underlying the metrics.
- Learn skills, techniques and mindset shifts and deep dive into inner and outer

competencies focusing both what you do, and how you are being

- Understand and utilize coaching skills and knowledge to create high performing teams that are resilient, innovative, resourceful and ready for their continuous improvements
- Understand the 4 different key modes: Coaching, Mentoring, Facilitation & Consulting. Learn when, why and how to apply the right mode
- Apply learnings to build a business case and plan for the DevOps Transformation journey
- Interpret the DevOps organizational goals and establish the critical role high performing teams have in this

## AUDIENCE

The DASA DevOps Coach certification is aimed at:

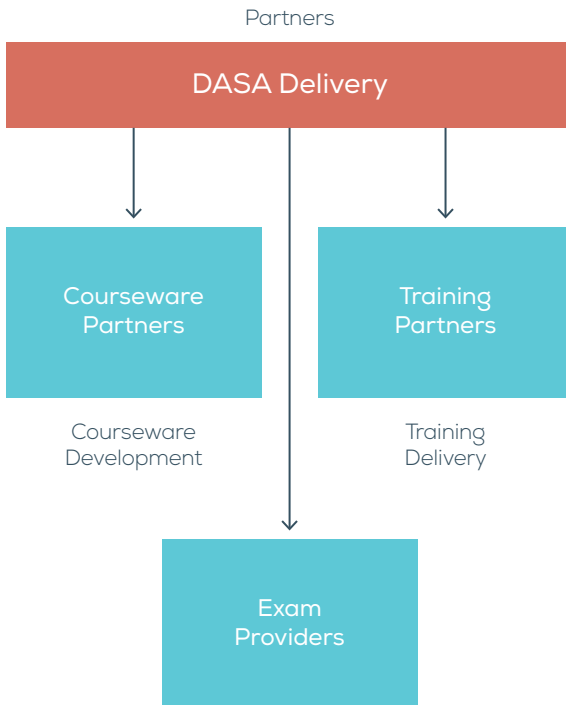
- (Lean, Agile, DevOps) Coaches
- Senior Scrum Masters
- DevOps Team Members looking to take on the role of a coach
- Change agents
- Managers, and It leadership
- Those responsible for an agile initiative

# BUILDING A GLOBAL COMMUNITY

## UNDERSTANDING YOUR MEMBERSHIP OPTIONS

Our objective is to provide an independent and open association supporting the development of high-performance IT organizations. Interested?

We are a members driven organization our content development teams are active in workgroups - that work on Designs and Definition - They build our competence Baseline which define DevOps Job Roles & Competencies, in addition they develop learning and testing baselines in the form of Syllabuses, Mock Exams and Exams. We feedback is provided to the working groups by our community review groups and DASA Editorial Board.





## FORERUNNER

A Forerunner is someone or something that comes before another, a sign that something is going to Happen. Our Forerunner members ensure that DASA has a 360-degree view of what's key to companies looking to adopt DevOps principles.



## TRAINING PARTNER

If you are an IT Training, or Consulting organization, or a member of an Enterprise IT team interested in training your internal teams. Why not become a DASA Training Partner the benefits are that you will be using an open source, universal qualification scheme.



## COURSEWARE PARTNER

Develop Courseware that conforms to the DASA Syllabus and Exam Specifications. If you have developed DevOps courseware you can submit it for review and if approved. You can become a DASA Courseware Partner.

An aerial, high-angle view of a dense urban cityscape, likely New York City, showing numerous multi-story buildings with varied architectural styles, including flat roofs, water towers, and fire escapes. The image is rendered in a light, monochromatic teal color. A solid teal rectangular box is positioned in the center-left of the frame, containing the word "DASA" in white, uppercase, sans-serif font. At the bottom of the image, there is a horizontal bar composed of four colored segments: teal, red, teal, and teal.

DASA

# JOIN OUR GLOBAL MOVEMENT

Do you or your organization want to join other leading IT thought leaders from industry, software, training and consulting organizations working cooperatively to build the most open, comprehensive platform available in the market for DevOps and Agile Skills Development? If so, you can become a DASA Forerunner, Training or Courseware Partner.



## CONTACT

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