PURPLE GRIFFON
The IT Service Management Training & Consultancy Specialists

Course Title: BCS DevOps Foundation	**Course Duration**: 2.0 Days
Exam: Included	**Exam Type**: Proctored Exam
Qualification: BCS Certificate In DevOps Foundation	

Course Syllabus

1. Introducing DevOps (5%)

You will be able to:

- 1.1 Understand the traditional IT challenges that exist, which have allowed DevOps to emerge as the most logical way to operate in an IT environment.
- 1.2 Recall the history of DevOps and associated key events.
- 1.3 Understand what is involved when an organisation embarks on an Agile and DevOps transformation journey.
- 1.4 Understand what the business case justification is for a DevOps transformation.

2. Benefits Of DevOps (10%)

You will be able to:

- 2.1 Show understanding of the various Agile practices that compliment a DevOps way of working.
- 2.2 Understand why an organisation should focus on products and services and how DevOps allows the benefits of these to thrive.
- 2.3 Understand why autonomous teamwork is vital for DevOps to be successful, relying on teams to deliver sustainable value.
- 2.4 Understand the CALMS model and the impact it has on a DevOps transformation.

3. Culture (15%)

You will be able to:

- 3.1 Understand the various models that explain how teams operate differently, depending on the circumstances and context, and how teams may be better equipped to succeed within the right culture.
- 3.2 Explain that team agility is a mindset: a common understanding within a team of how to operate in as lean a way as possible, which should not become a set of processes.
- 3.3 Explain why cross-functional teams are mandatory to allow for commitment-based delivery and fully autonomous teams.
- 3.4 Understand the key differences between motivators and de-motivators that ultimately lead to job satisfaction.
- 3.5 Explain the differences between servant leadership and traditional management techniques, understanding which is more appropriate for modern IT delivery.

4. Automation (15%)

You will be able to:

- 4.1 Explain what Continuous Integration (CI) is and why it is vital for any organisation looking to reduce their time to market, with a regular cadence of deliverable working software.

- 4.2 Improve agility and automation via the application of various environmental management practices and techniques.
- 4.3 Understand how to apply critical release management activities; planning, scheduling and controlling a software build through different stages and environments.
- 4.4 Explain that test automation is the use of software to control the execution of tests, allowing for the comparison of actual outcomes with predicted outcomes.
- 4.5 Explain how deployments in DevOps allow changes to travel the entire pipeline and get promoted into production automatically, resulting in multiple deployments daily.
- 4.6 Understand how to use data and data management to ensure code is ready for production.

5. Lean (10%)

You will be able to:

- 5.1 Apply techniques to maximise flow optimisation within a team.
- 5.2 Understand why Work In Progress (WIP) is potentially extremely wasteful and apply various techniques to help to limit WIP, allowing for a better workflow.
- 5.3 Know the Theory of Constraints (TOC) and recall basic constraint management practices.
- 5.4 Explain the 8 Types of Waste according to Lean guidelines and why each type may be considered to have a negative effect on productivity.
- 5.5 Understand that a customer focus, which provides the customer with a better product or service, should always be the driving factor of a DevOps team.

6. Measurement (10%)

You will be able to:

- 6.1 Understand how product goals should be clearly aligned with business goals, to ensure that value is being added.
- 6.2 Understand the different metrics that can be used to determine a successful delivery.
- 6.3 Understand the different metrics that can be used to ensure the business operations are working as effectively as possible.
- 6.4 Understand how captured metrics may be analysed to ensure that feedback is used appropriately and efficiently.
- 6.5 Explain the differences between Lead Time and Cycle Time; specifically, that Lead Time ends at delivery, whereas Cycle Time is when the item is ready for delivery.

7. Sharing (10%)

You will be able to:

- 7.1 Explain why collaboration is vital for DevOps success and what can be done to ensure that collaboration remains consistent throughout a product delivery.
- 7.2 Explain the reasons for implementing feedback loops wherever possible, focusing on the key benefits around agility and flexibility, to build the right product which is fit for purpose.
- 7.3 Explain the benefits of visualising aspects such as work, workflow and blockers and be able to highlight why visualising encourages further ad-hoc collaboration.
- 7.4 Understand why the Business and IT teams must work together daily, to ensure that all goals are clearly aligned.
- 7.5 Understand why high performing teams are always looking for opportunities to cross- learn and develop new skills.

8. Common DevOps Roles (5%)

You will be able to:

- 8.1 Understand the key duties and responsibilities of the following distinct roes within a DevOps team:
  - DevOps Evangelist
  - Automation Architect

- Cloud Infrastructure Engineer
- Software Developer.
- Software Tester
- Security Engineer
- Database Administrator
- Product Owner

9. Common DevOps Practices And Techniques (10%)

You will be able to:

- 9.1 Explain the practices of both Continuous Integration (CI) and Testing and Deployment, detailing how they work together to formulate the technical excellence required for DevOps delivery teams.
- 9.2 Explain that Infrastructure as Code (IaC) is the process of managing and provisioning data centres through definition files, rather than physical hardware configuration tools.
- 9.3 Explain the importance of Test Driven Development (TDD) and why this practice allows delivery teams to focus on developing the simplest, most robust solutions possible.
- 9.4 Understand that a toolchain is a combined set of programming tools, which can be used to perform a complex software development task.
- 9.5 Understand that distributed version control is a form of version control, where the complete codebase is mirrored on every engineer's machine.
- 9.6 Understand the various tools that can be used to ensure effective production monitoring.
- 9.7 Understand the key differences between public, private and hybrid cloud technologies.

10. Relevant Methods And Approaches For DevOps Teams (10%)

You will be able to:

- 10.1 Explain what DevOps topologies and Target Operating Models (TOM) are and why an organisation might use them as part of their DevOps transformation.
- 10.2 Explain what scrum development delivery is and why this Agile development framework is particularly appropriate for delivery teams within a DevOps-focused organisation.
- 10.3 Explain how KanBan workflow can be used to identify bottlenecks, improve the overall delivery process and visualise the workflow.
- 10.4 Understand that transformational leadership is required at all levels of the organisation to successfully transform to a DevOps environment.
- 10.5 Explain what full stack engineering is and understand the benefits of building delivery teams consisting of full stack engineers.
- 10.6 Understand how collective ownership can form strong teams with focused, shared goals.
- 10.7 Understand why Continuous Experimentation is vital to ensure that creative solutions are always sought to solve problems presented by the business and that Continuous Experimentation allows for early and safe failure.

Course Overview

Our two-day BCS DevOps Foundation training course is a great starting point for an individual or organisation wishing to embark upon the DevOps journey.

A core understanding of fundamental DevOps values, practices and techniques is essential learning, as you move towards improved workflows and faster deployments.

Our BCS DevOps Foundation training course promotes framework-agnostic learning, and core DevOps values will be at the heart of all discussions, citing specific textbook examples to support these values.

Course Learning Outcomes

BCS Membership Offer: If you do not hold a BCS certification and successfully pass the examination for this training course - you will be given one year's complementary BCS Membership. This offer is only valid for your first BCS qualification.

You will be able to demonstrate knowledge, understanding and some basic application of the following aspects of DevOps:

- Origins
- Benefits
- Culture and Teams
- Automation
- Lean
- Measurement
- Sharing
- Common Roles
- Practices and Techniques
- Methods and Approaches for Teams.

Audience

People involved in or implementing the DevOps process, including roles such as:

- DevOps Evangelist
- Automation Architect
- Cloud Infrastructure Engineer
- Software Developer
- Software Tester
- Security Engineer
- Database Administrators
- Product Owners

Entry-Level Requirements

There are no mandatory prerequisites for the BCS DevOps Foundation training course.

Recommended Reading

Recommended Reading List

Title: The Phoenix Project: A Novel About IT, DevOps, and Helping Your Business Win Author: Gene Kim, George Spafford, and Kevin Behr
Publisher: Trade Select; 3rd Edition
Publication Date: 16 April 2018
ISBN: ISBN-10 - 1942788290

What's Included

You will receive the following as part of this BCS DevOps training course:

- Access to DevOps pre-class reading and materials
- Participation in practical in-class assignments
- Study aids, sample exam and exam preparation guidance and tips In-class examination or web examination (virtual classroom)

Exam Information

BCS DevOps Foundation Examination:

- Exam Duration: 60 Minutes
- Exam Format: Closed Book, 40 Multiple Choice Questions
- Exam Delivery: Online, Webcam Proctored
- Exam Pass Mark: 65% (26/40 Questions)

Candidate Responsibilities

- You need to complete registrations for both BCS and Questionmark.
- You will receive an email inviting you to register on the e-professional portal. Once you have completed this registration, you will be able to see the booking details that your training provider had given to BCS.
- The exam date and time may not reflect what you will book with Questionmark, but we will update this once the exam has taken place so your certificate will have the correct date.
- You will also receive an email with log in details for Questionmark. This will enable you to complete your registration and book your exam. The link for registering is here.
- If you are unable to see an assessment to schedule once you have registered, please contact BCS via customerservice@bcs.uk.
- If you're unable to select a remote proctored time and date, contact support@questionmark.com.

Create Proctor Session

- To select the exam date and time click on 'Schedule'. If you have multiple exams to schedule it is advised that you only schedule the exam you wish to take otherwise you may encounter an error 500 screen.
- If you do encounter this then please clear your browser cache before proceeding.

What's Next

Our three-day ITIL® 4 Foundation training course is the starting point in your ITIL® 4 certification journey and is the prerequisite for the ITIL® 4 Managing Professional (MP) and ITIL® 4 Strategic Leader (SL) training courses.

Our ITIL® 4 Foundation training course is for anyone who needs to understand the key concepts of IT and digital service delivery, and who is interested in helping their organisation embrace the new service management culture.

Additional Information

In this BCS DevOps Foundation training course, you will have developed your understanding of DevOps methodology, tools and practices,?and learned how?to?deliver applications and services more effectively.