Tytuł szkolenia: HPE DevOps Practitioner – Building Culture and CI/CD Pipelines

Kod szkolenia: H1RY1S

Wprowadzenie

The HPE DevOps Practitioner course is an immersive DevOps experience where students learn to create a DevOps culture while building a continuous delivery pipeline. Combining theory, hands-on labs and soft skills exercises, the course operates as a DevOps Dojo (a place to study, practice, and learn). It covers both cultural and technical aspects of DevOps where attendees will experience a “week in the life” of a DevOps team. During the week, teams will adopt DevOps principles, implement a continuous delivery pipeline, explore continuous integration and testing, ChatOps, infrastructure as code, and put new ways of collaboration intc practice.

Adresaci szkolenia

IT development staff, IT operations staff, IT security staff, IT testing staff, IT teams implementing DevOps.

Prerequisites

Before attending this course, students should have either of the following experience:

• As developers: basic scripting and software development skills
• As operations: basic sysadmin (Linux) knowledge
• Basic understanding of DevOps principles and methods is a benefit,
but not a must

Cel szkolenia

Upon successful completion of this course, candidates can expect to gain knowledge of:

- Cultural changes involved in a DevOps transformation, optimizing for the complete system and business outcomes
- Concepts, processes and technology to execute on continuous integration and testing, continuous delivery and deployment and continuous operation.
- In addition to gaining the above softand hard skills, attendees will experience DevOps “aha moments”, while developing and operating a web shop application. They will get prepared to become the DevOps champions in their organization

Czas i forma szkolenia

- 35 godzin (5 dni x 7 godzin), w tym wykłady i warsztaty praktyczne.

Plan szkolenia

1. Dev: meet Ops, Ops: meet Dev. Getting to know each other

• A team building exercise to demonstrate key aspects of DevOps and how to break down silos

2. DevOps introduction

• Overall introduction to the concepts, processes, and tools of DevOps, used as a baseline for the rest of the course. This module introduces DevOps values, culture, leadership and the DevOps value chain

3. The continuous delivery pipeline: an assembly and operation line for applications

• Overview of the continuous delivery pipeline, functions and the types of tools which traditionally compose it. Attendees interact for the first time with the actual tools used throughout the week

4. Build something together

• A collaboration exercise to build something awesome together, share ownership and experience growing teamwork

5. Agile for everyone: innovate and operate at the speed of business

• This module is a kick-start to the DevOps way and the story used to propel the rest of the week. It addresses how Agile is used for different roles, through different flavors (SAFe, Scrum, Kanban). The team will organize its agile backlog and Kanban for the shopping application they will own for the week, focused on business outcomes

6. Modern application architecture: Micro Services, Test Driven Development

• An overview of key application architecture design patterns for DevOps. The team will begin their coding effort by applying a test-driven development approach

7. Moving away from phased approaches: continuous integration and testing

• Each code check-in triggers an automated build and a certain level of automated tests, without interfering with other ongoing activity. The team will implement a new feature, going through all the steps in the pipeline for continuous integration and testing

8. Velocity meets quality: automated tests

• All test levels (unit, functional, security, performance and manual tests) are part of the pipeline. In order to achieve velocity and quality, the default is automation and the exception manual tests. The team will experiment test environments on demand for security and manual testing

9. Iteration to reach perfection: minimum viable product

• Learning to deliver value quickly: building and prioritizing the product roadmap, estimating value and risk

10. Dev, Ops and Robots: troubleshooting ChatOps

• Leveraging persistent chat rooms connected with the continuous delivery pipeline, the team will experience an application crisis and troubleshoot the issue collaboratively while chatting with robots

11. Zero business downtime with automated and blue/green deployments

• As velocity increases, a new way of deploying the application is required. The team will experience zero down time automated deployments through blue / green deploy technique

12. Business driven testing in production with A/B testing and canary releases

• Enabled through the continuous delivery pipeline, A/B testing and canary releases are key deployment patterns to maximize business benefits while reducing risks. The team will get an understanding of both and experience the business outcome of a feature deployed with A/B testing

13. Making work visible

• Monitoring everything to make work visible. Dev and test dashboards, health dashboards, business dashboards

14. Optimize cost with infrastructure as code

• This module shows how to drive servers, storage and network capabilities as code, through the continuous delivery pipeline. Explore managing hardware as software with open-source tools for a programmable infrastructure. The team will add capacity to the web shopping application, enabling more business value

15. The Chaos Monkey

• Instead of fearing production issues, we engineer the system to be failure-proof. The Chaos Monkey strikes by shutting down systems randomly in production. The team will create a Chaos Monkey in the production environment, design and manage mechanisms, which prevent service failure

16. Enabling a trust and sharing culture, exploring the impact of team autonomy

• Another soft skills exercise to enable trust and foster sharing for its own sake and for the greater good. Examine the direct impact on productivity. The practice of a “Blameless” Post-Mortem

17. DevOps IT topologies and leadership

• This module introduces IT team topologies and leadership approaches. The team selects topologies to support the adoption of DevOps. We assess our organization and practice value-stream mapping and learning how to lead change through iteration. From our individual value stream maps, we identify improvement themes and create realistic action plans. Discuss how to select the team, projects and next steps