# Capgemini DevOps Curriculum
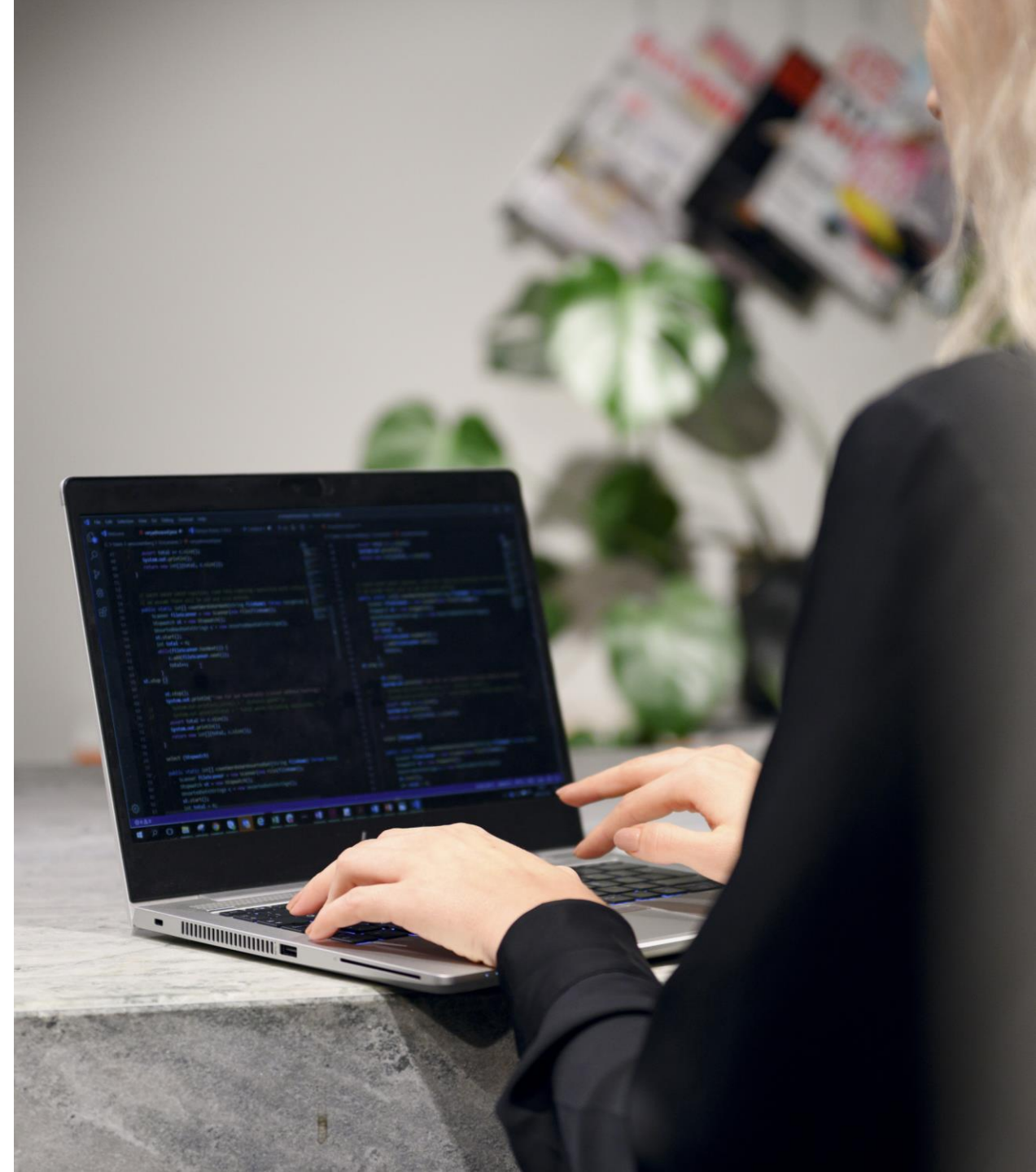
Learning Outcomes in Modulen

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# Was sind Learning Outcomes?

Learning Outcomes definieren die Kenntnisse, Fertigkeiten und Kompetenzen, die die Lernenden am Ende einer Aufgabe, einer Lektion, eines Projekts, eines Kurses oder eines Programms erworben haben sollten.

Sie beschreiben die Lernziele einzelner Lerneinheiten, in unserem Fall die Lernziele der Trainingsmodule des DevOps Academy Programms 2020.

# Capgemini DevOps Academy – Curriculum in Modulen
## *As a consultant...*

**W 1: DevOps Mindset**

... I can explain basic concepts and a set of best practices of software engineering and devops.

**W 2 & 3: Java Programming**

...I understand java programs and can write tests and fix bugs in java code. I can explain gitflow and it's main benefits and can use it to share my code with other team members.

**W 4: Engineering Process**

... I understand common software engineering processes and methodologies and am able to explain their basic principles.

**W 5: Infrastructure as a Service**

...I know the typical cloud services and their features and can compare cloud services to their on-premise counterparts.

**W 6: DevOps Soft Skills**

... I know about necessary devops soft skill sets, can assess my individual level and am able to continuously improve upon them.

**W 7 & 8: Deployment and Delivery**

... I can create and deliver an application. I can deploy an application using scripts (without utilizing pipelines).

**W 9: Continuous Integration**

... I know typical steps of Continuous Integration (CI) and can create pipelines.

**W 10: Continuous Deployment**

... I know typical steps of Continuous Deployment (CD) and can detect simple errors.

**Week 11 & 12**

Finale Project
Agile working Teams of 3 to 4 consultants

# Learning Outcomes

# Learning Outcomes in Modulen (1)

**Modul 1: DevOps Mindset**

As a consultant I can explain basic concepts and a set of best practices of software engineering and devops.

- I know how to run a simple JAVA program and a simple docker container.
- I can explain how development and operations work together.

**Modul 2: Java Programming**

As a consultant I understand java programs and can write tests and fix bugs in java code.

- I can manage my Java Project in Eclipse using maven dependencies so packages are resolved automatically.
- I can write Unit Tests using JUnit 5 to achieve basic coding quality and maintainability.
- I can persist Entities using Hibernate to connect a JAVA application to a relational database.

As a consultant I can explain gitflow and it's main benefits and can use it to share my code with other team members.

- I can work proficiently with git and git flow.
- I can manage and automate test cases using Selenium and X-Ray.

# Learning Outcomes in Modulen (2)

**Modul 3: Engineering Process**
I understand common software engineering processes and methodologies and am able to explain their basic principles.
  - I can use Jira to manage my issues
  - I can use a Kanban board to visualize user stories

**Modul 4: Infrastructure as a Service**
I know the typical cloud services and their features and can compare cloud services to their on-premise counterparts.
  - I can use terraform to create local servers via docker.
  - I can deploy a jenkins server locally.

**Modul 5: DevOps Soft Skills [& Start of Mini Project]**
As a consultant I know about necessary DevOps soft skill sets, can assess my individual level and am able to continuously improve upon them.
Mini Project Topic: I can deploy and test a given application.

# Learning Outcomes in Modulen (3)

**Modul 6: Deployment and Delivery**

As a consultant I understand common software engineering processes and methodologies and am able to explain their basic principles.

- I can write and configure a spring boot application using common spring boot mechanisms
- I can pack a deliverable artifact with documentation.

As a consultant I can deploy an application using scripts (without utilizing pipelines).

- I can start a tomcat server using docker.
- I can deploy a java application to tomcat using ansible.
- I can deploy a java application to the docker runtime.

# Learning Outcomes in Modulen (4)

**Modul 7: Continuous Integration**
As a consultant I know typical steps of Continuous Integration (CI) and can create pipelines.

- I can create a hello World Jenkins file and a CI Pipeline.
- I can set up a Webhook to Jenkins.
- I can validate code quality with sonarqube.

**Modul 8: Continuous Deployment**
As a consultant I know typical steps of Continuous Deployment (CD) and can detect simple errors.

- I understand error messages in Jenkins or application logs and can fix the errors.
- I can deploy using a Jenkins file.
- I can inspect log files of my application.
- I can deploy my application to an existing logging stack using the sidecar pattern.