From Ops to DevOps

Pedagogical offer

Context:

Le Wagon was founded in 2013 with the mission to bring technical skills to creative people. Our flagship program is a 9-week coding-bootcamp teaching full-stack web development to absolute beginners. More than 9000 alumni have graduated from our program in 40 cities around the world, and we have been voted #1 coding bootcamp for the past 3 years running (Switchup and Course Report).

Since 2017, Le Wagon has expanded its pedagogical expertise, tools & processes to companies across a variety of verticals in Europe. We have developed new training programs & bootcamps for the workforce, allowing employees to deep dive into a range of different areas such as data science, UI / UX design, and software engineering.

Le Wagon's approach to corporate programs is that we put your company's technology stack at the heart, while using leading methodologies and a learn-by-doing approach. We not only teach code & technical skills, but also help your employees to ask the right questions and always keep a critical eye on the output of any algorithm / data analysis.

Pedagogy & Methods:

Le Wagon uses a **Learning-by-Doing** approach.

Each day of the training will be designed the same way and will let a lot of time to practice. A typical day starts with a 90 minutes morning lecture on the topic of the day followed by exercises in groups til 4:50pm (with a 1h of lunch break), and finish by a 1-hour live code.

- **Morning lecture** - each day of the bootcamp starts with a 90-minute lecture from an experienced developer who will interactively demonstrate the day's content by writing code (text editor, terminal, IDE, reading documentation, etc.), instead of only browsing slides. This content provides the foundations for the day's learnings.

- **Classroom challenges (via exercises)** - the main chunk of the day is then spent practicing in the classroom solving code challenges of increasing complexity. The Lead Instructor and a team of Teaching Assistants are available throughout to answer questions and guide the students when they get stuck. The instructor / student ratio has been continuously adjusted to take into account the difficulty of the program on each day (1 for 6 students on average).

- **Buddy system** - a buddy-system is used to team up stronger students with weaker students and to encourage collaboration among the batch. This helps stronger students solidify their knowledge by explaining difficult concepts, and gives weaker students another person to reach out to.

- **Live code** - each day finishes with Live Code. The Lead Instructor invites students to come up to the front of the class and solve a coding challenge with the help of their fellow students. This is often fun and allows the teacher to reiterate any core learning points from the day.

Le Wagon does not have a traditional academic approach. Instead, we have adapted the learn-by-doing mentality to provide plug-and-play training with professionals and ready to use content.

Curriculum
From Ops to DevOps

Discover all the key concepts, languages, tools and methodologies to go to DevOps.
Le Wagon offers a plan in five modules, one day each.

Prerequisites:

This training course is intended for IT team members that have a technical background and want to become proficient in a modern programming language (Python), databases (SQL and SQLAlchemy), API design, implementation of asynchronous tasks and best practices in software development (Git, Github, TDD and continuous deployment).

Preparation Work:

Before these five days, Le Wagon provides 2 full days of preparatory work on a curation of online classes.

During these 2 days, Le Wagon will provide a TA (Teaching Assistant) at their disposal for guidance and technical support.

The purpose of the prepwork is to **acquire the necessary foundations** to be able to better understand the 5 intense days of training.

Platforms and tools :

- Github
- Sublime Text 3 (with Package Control)
- Python 3.8 & pipenv
- Docker
- Le Wagon's education platform

Day 1 - Object-Oriented Programming with Python

This module will cover all the basic concepts of an object-language (variables, conditions, loops, classes, etc.) with Python as the support language. We have taken into consideration the imperative need of Société Générale to use this language.

Day 2 - Best Practices: Versions, TDD , Code Reviews , Continuous Deployment

This module allows ops to structure their approach to scripted development using developer tools and methodologies. The cloud tools and technologies discussed will be Git, GitHub, Travis CI Jenkins and Heroku.

Day 3 - Back-end development: HTTP, RESTful API, Webhook, Web Services

One of the most used protocols on the Internet is HTTP. A fundamental understanding of its concepts is essential to address a higher level of development.

Day 4 - Database processing and storage: SQL, Database, ORM and ETL

A daily occupation of a developer is the manipulation of data . It is often unstructured and needs to be transformed and stored in a sustainable way. This module will discuss the principles of modeling a relational database schema and the associated query language.

Day 5 - Containerization: Docker

Docker and containers are a new way of executing software, a true revolution in application development and distribution. This last module will shed light on how a container works, the main command lines, and the process of containerizing an application.