

## Cloud & Containers - Everything you need to know

*Monday 6 March 2023 11:15 (1 hour)*

These days, the “cloud” is the default environment for deploying new applications. Frequently cited benefits are lower cost, greater elasticity and less maintenance overhead. However, for many people “using the cloud” means following obscure deployment steps that might seem like black magic.

This course aims to make newcomers familiar with cloud-native technology (building container images, deploying applications on Kubernetes etc.) as well as explain the fundamental concepts of the tech (microservices, separation of concerns and least privileges, fault tolerance).

In particular, the following topics of application development will be covered:

**BUILDING**; writing applications in a cloud-native way (e.g. to work in an immutable environment) and creating container images according to best-practices;

**DEPLOYING**; using infrastructure-as-code to describe the application deployment (e.g. Helm charts) and using advanced features such as rolling updates and auto-scaling;

**MONITORING**; after multiple containers have been deployed, it is important to keep track of their status and the interaction between the services.

**Primary author:** HENSCHTEL, Jack (CERN)

**Presenter:** HENSCHTEL, Jack (CERN)

**Track Classification:** Computer science and engineering