

Docker Container Hands-On

Tuesday, August 27, 2019 1:15 PM (4h 45m)

Container technologies are rapidly becoming the preferred way to distribute, deploy, and run services by developers and system administrators. They provide the means to start a light-weight virtualization environment, i.e., a container, based on Linux kernel namespaces and control groups (cgroups). Such virtualization environment is cheap to create, manage, and destroy, requires a negligible amount of time to set-up, and provides performance equatable with the one of the host. Docker offers an intuitive way to manage containers by abstracting and automating the low-level configuration of namespaces and cgroups, ultimately enabling the development of an entire ecosystem of tools and products around containers.

This workshop covers aspects ranging from the basic concepts of Docker (e.g., set up of a Docker environment on your machine, run a container interactively, build-tag-publish images) to the deployment of complex service stacks using container clusters and orchestration software (e.g., Docker Compose and Kubernetes). The workshop will discuss in detail the concepts of network, volume, and resource management, demonstrating that containers are suitable for a variety of applications and their actual advantages over traditional virtual machines.

Note: The workshop includes hands-on exercises. To benefit to the maximum of the tutorial part, you should bring your own laptop and have Internet connection. You should also be comfortable working with the Linux terminal, editing files with common editors (e.g., vi, nano, emacs, etc.), and installing packages over the command line.

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Session Classification: Tutorials