

# udocker: current and future developments

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udocker is a tool to execute containers in HPC resources. It can pull container images from any registry, be it DockerHub, GitHub Container Registry (<https://ghcr.io>) or GitLab Container Registry (<https://registry.gitlab.com>) or others. udocker is a run-time tool to enable the execution of applications encapsulated in containers both on HPC and Cloud resources.

This presentation will describe the developments introduced in the latest version of udocker (1.3.10). These include: support for pulling, importing, loading and executing images from different architectures possibly different from the executing host, support for QEMU on PRoot modes, experimental support for native Fakechroot execution on arm64 and ppc64le for some guest operating systems such as CentOS 7, AlmaLinux 8, AlmaLinux 9 and Ubuntu 22 and improved support for OCI images.

The presentation will also address ongoing developments such as:

- \* Further improvements for the OCI image format.
- \* New installation capabilities allowing udocker installations tailored to the host OS and/or hardware architecture and enabling the user to customise which tools and libraries to install.
- \* Further improvements for MPI applications, towards automation of discovery and mapping of host libraries, devices and drivers.

**Primary authors:** GOMES, Jorge (LIP); DAVID, Mário (LIP)

**Presenter:** GOMES, Jorge (LIP)

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