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Linux containers based on Docker linuxa

Objectives:
To acquire the ability to implement and deploy applications through Docker containers.

Length of the course:
1 day

Code of the Course:
architecture_docker_001

Target Audience:
Intended for project managers,devOps, architects and programmers.

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Motivations:

The lightweight virtualization offered by the Linux kernel through cgroups allows to develop applications deployed as a group of independent virtual machines named containers. This simplifies administration tasks by allowing to run several application versions in parallel and by avoiding unnecessary uninstallations. Docker is a mature tool for handling containers, offering support throughout their whole life cycle.

Scope of the training:

- **Awareness of linux container capabilities.**
- **Creation of Docker images.**
- **Deployment and administration of container instances.**
- **Creation and administration of container clusters.**

Technological Scope:

- **Linux cgroups: https://www.kernel.org/doc/Documentation/cgroup-v1/**
- **Docker: https://www.docker.com/**

Requirements:

No previous knowledge required.

Type of course:

- **50% lectures,50% workshops.**

Program:

1. Overview of virtualization technology

- Virtualization with Hipervisor.
- Virtualization with cgroup.
- Overview of cgroups technology in the Linux kernel.

2. Overview Docker

- Creating a Dockerfile.
- Building Docker images.
- Basic tasks with docker instances.

3. Dockerfile creation

- Dockerfile instructions.
- CMD vs ENTRYPOINT.
- Docker image history

4. Docker instances

- Run and administration of docker instances.
- Container life cycle.
- Clustering containers.