

Introduction & Motivations

- The fast growth of various electronic devices connected to the Internet is way a good enough proof of the Internet of Things technology revolution.[1] Many universities researcher, spend more time in configuring a safe environment
- for their research code development and testing.
- Aiming to facilitate the development and delivery of software infrastructures, software that run more and more on multiple platforms.
- Microservice is an architectural style inspired by Service-Oriented Computing (SOC) and Service-Oriented Architecture (SOA). [2]
- Docker is a new tool that automates the deployment of applications inside Linux containers. It provides a layer of abstraction and automation of operating-system level virtualization.

Methodology

- The first layer is a user-friendly interface that allow the user to interact with the system. The user can select different requirements for the future container.
- The second layer is the hear of the system, where the container is built using the user requirements, and where the dependencies are download and installed.
- The third layer is composed of the system data base and an access to the internet for additional packages download.



GR-40: Design and Implementation of a Microservice Web -based **Architecture for Code Deployment and Testing**

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Results

- A data base is built with popular images on the Docker Hub. We also added a Python image and an Apache image for testing purposes
- The data base also contain a Docker template instruction with multiple dependencies options based on images available on the system.
- So far, users can generate a Docker File then they have the option to download the Docker File to use it locally or to run directly the docker file on our server trough the CLI interface section from the web site



Fig. 2 Preliminary Data-base and Web-interface





