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ENVELOPE Deep Dive & Open Call #1

Introduction to the Experimentation as a Service approach of the ENVELOPE project

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6GSNS

Experimentation as a Service (EaaS)

- Enable an **experimenter** to use the ENVELOPE Platform for running an experiment
- An experiment consists of **deploying** a Vertical Service that leverages the advanced 5G features provided by the ENVELOPE platform
 - Vertical Service is a set of interconnected applications and network functions
- Experimentation within the ENVELOPE project is **managed** by the EaaS module



Workflow of the EaaS Module

- The experimenter *interacts* with the ENVELOPE Portal (i.e., graphical user interface) to carry out operations
 - It is the only *point of access* to leverage the features offered by the ENVELOPE Platform
- The experimenter essentially *performs* three main actions
 1. Upload an Application Package
 2. Upload an Experiment Package
 3. Interact with the Portal to manage an experiment instance
 - i.e., start/stop an experiment

ETSI NFV

VNF – *Virtual Network Function*

MCIOP – *Managed Container Infrastructure Object Package*

NS – *Network Service*



VNF -> Application



MCIOP -> Helm Package



NS -> Experiment

Application Package



Manifest (.mf)



Application Descriptor (.yaml)

Application Package

The Application Package contains the *Application Descriptor*, the *Manifest*, and it **may also include** other files related to the instantiation of the application (e.g., license, Helm chart, ...)

The *Application Descriptor* is a YAML template that lets you **define** all the metadata, deployment parameters, and interfaces for an application you want to deploy

The *Manifest* **contains** a list of artefacts and where they are located in the Application Package

Experiment Package



Manifest (.mf)



Experiment Descriptor (.yaml)

Experiment Package

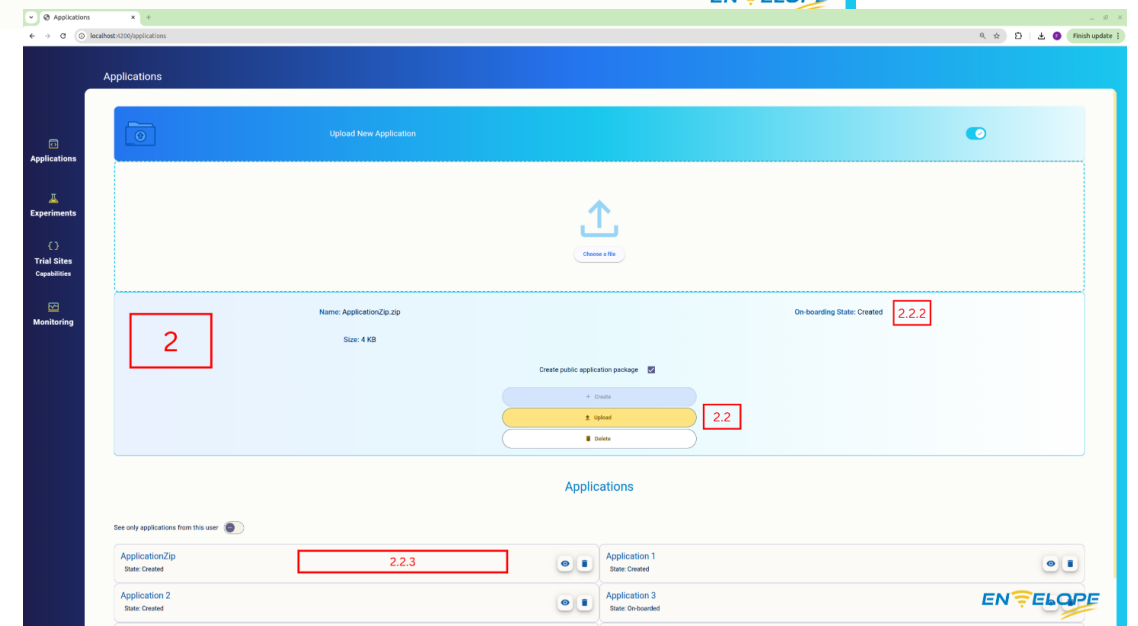
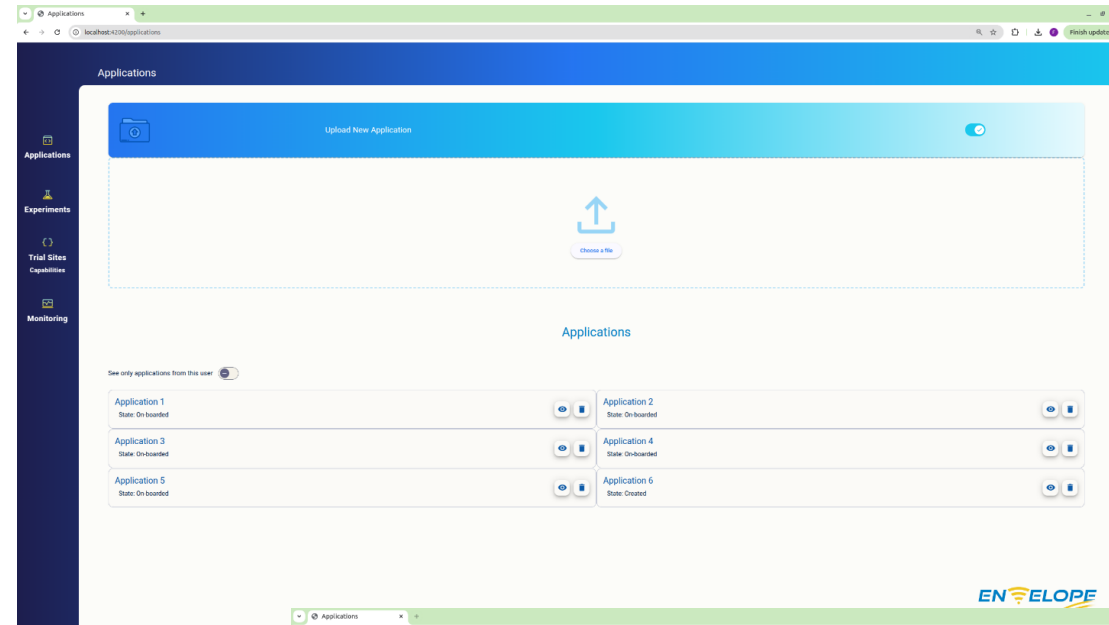
The *Experiment Package* contains all the information related to a ***single experiment*** in terms of artefacts and descriptor

The *Experiment Descriptor* is a YAML template that lets you define a ***multi-application experiment***, including which application descriptors to include, how many instances to run, and security settings

The *Manifest* contains a list of ***artefacts*** and where they are located in the Experiment Package

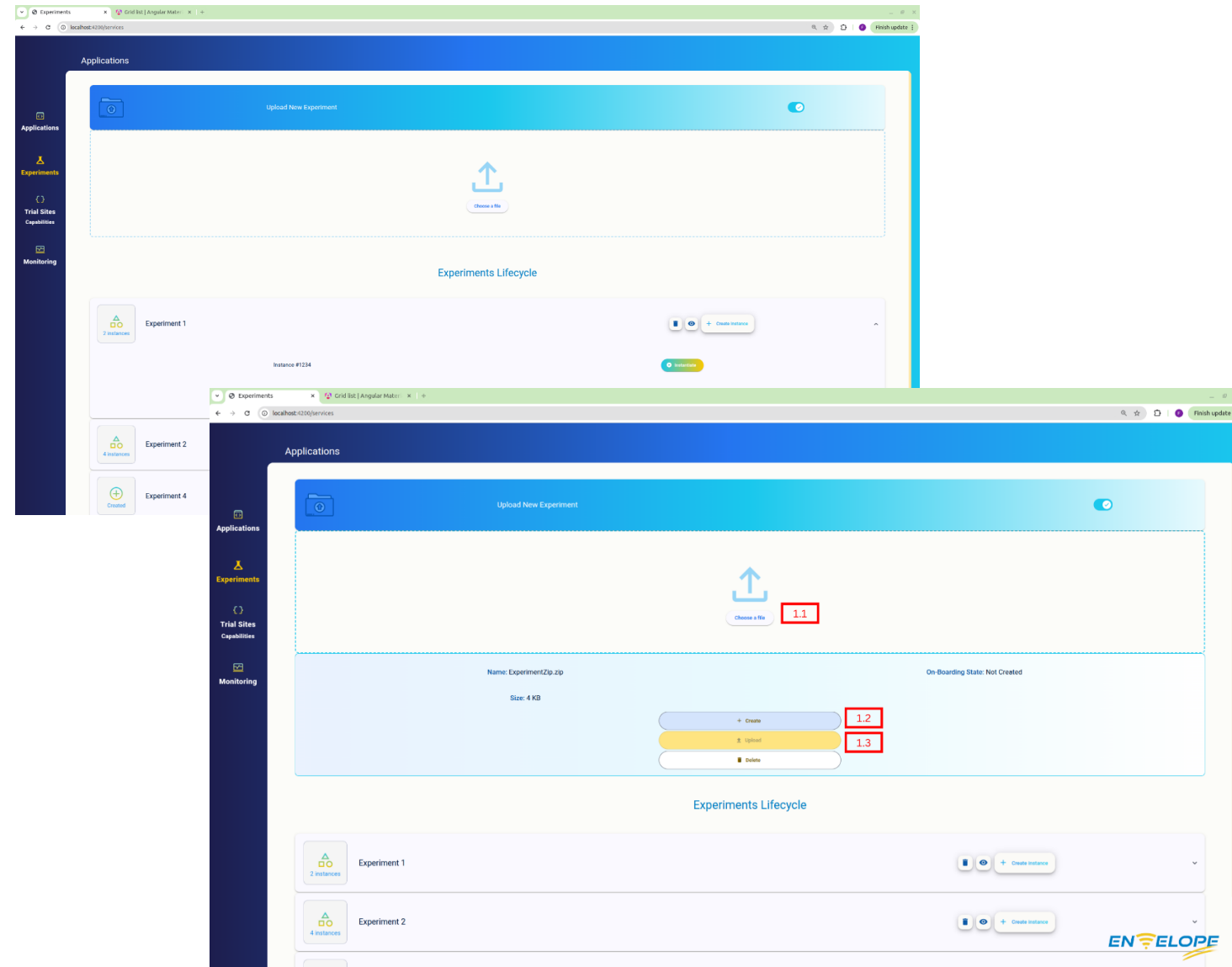
ENVELOPE Portal

Upload an Application Package



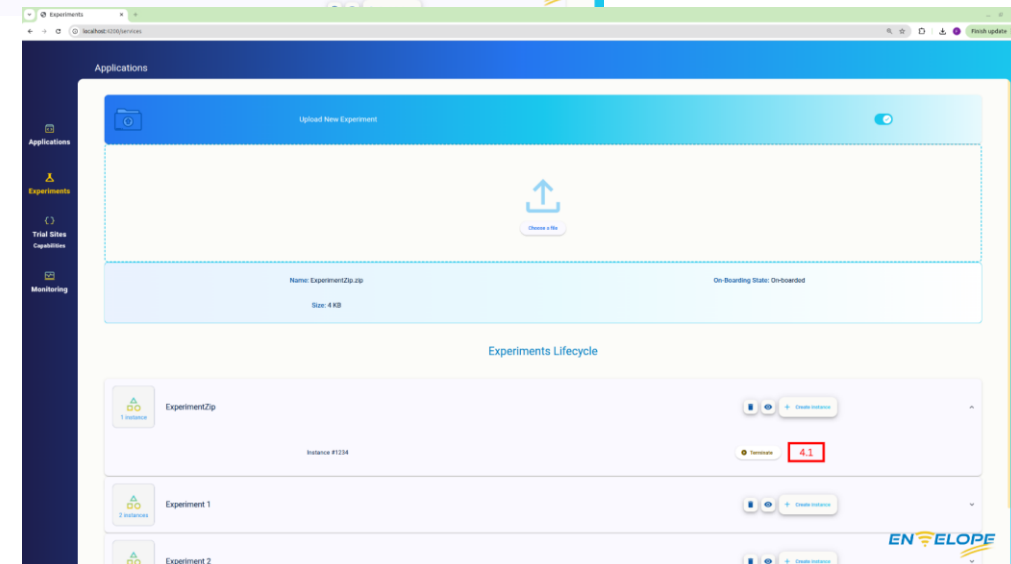
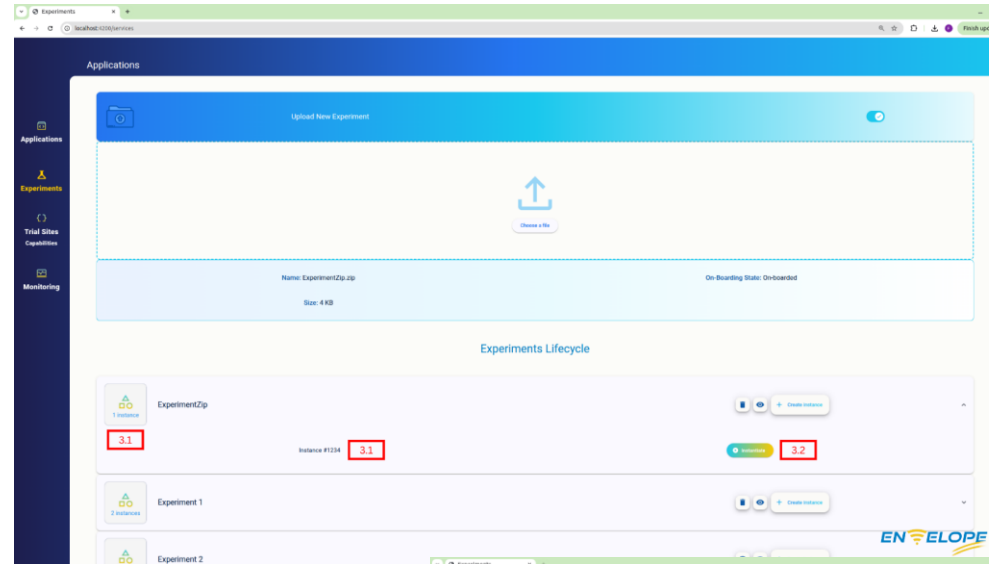
ENVELOPE Portal

Upload an Experiment Package



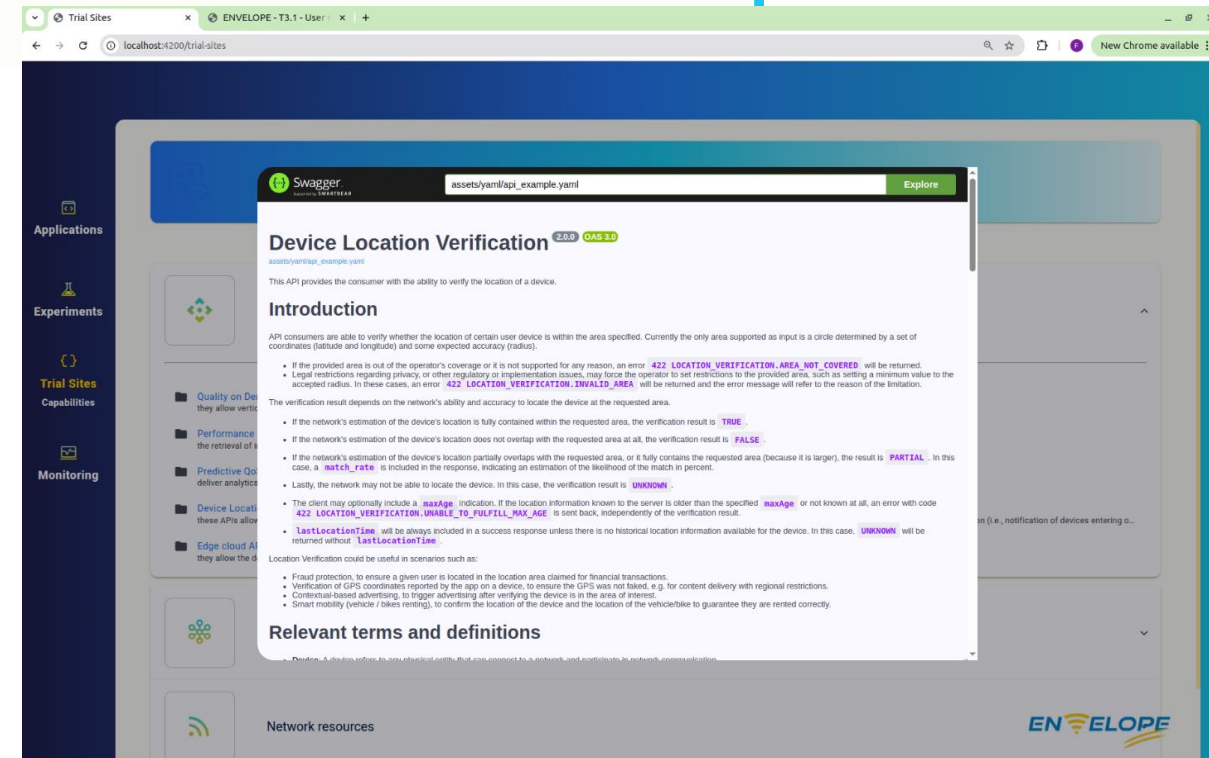
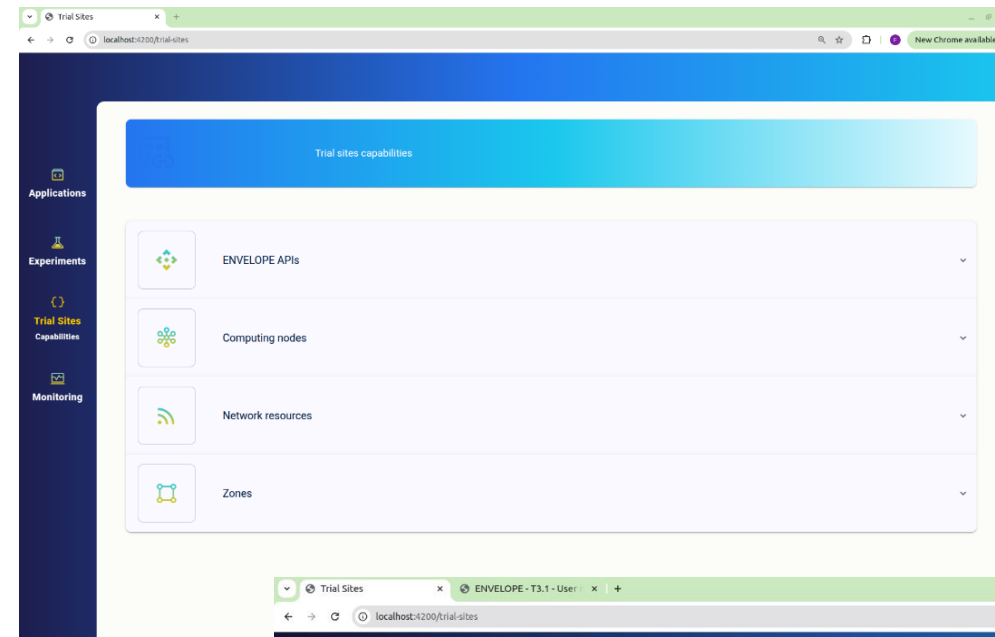
ENVELOPE Portal

Manage an experiment instance



ENVELOPE Portal

Get information about ENVELOPE
APIs, computing and networking
resources



ENVELOPE Portal

Monitoring based on Grafana

