Introduction

This guide provides detailed, self-contained and actionable technical instructions for integrating and federating a marketplace in DOME.
It is meant to be the reference for what is *currently* technically available and ready to be used. When additional functionality, components and/or instruction get available, this guide will be adapted accordingly.

This guide limits on the technical details and therefore is not providing any details about contractual and business aspects of the marketplace integration and federation.

Who is this guide for?

This guide aims for future participants willing to technically integrate and federate a marketplace in DOME. Descriptions and instructions are given as a comprehensive, step-by-step guide in such detail, so that IT and engineering teams can successfully and efficiently perform the necessary steps without profound knowledge of the DOME implementation details.

Nevertheless, this guide focusses on the actual integration of a marketplace in DOME, providing only the information needed to perform the actual setup for integration and federation. More details and in-depth knowledge about DOME and its involved components can be found in the linked resources.

The suggested deployment target infrastructure is Kubernetes. Therefore a sufficient knowledge of Kubernetes and Helm is expected when following this guide. Knowledge about ArgoCD is also helpful when using it as GitOps continuous delivery tool.
This guide requires access to a domain and it's DNS settings, as well as configuring proper certificates. Therefore also knowledge about cert-manager and external-dns is recommended.
Authentication requires usage of decentralized identifiers and verifiable credentials, which requires an appropriate configuration of the related components. Therefore, the reader of this guide should be familiar with DIDs and VC/VP standards.

What is DOME?

Cloud computing is identified as a central piece of Europe’s digital future, giving European businesses and public organisations the data processing technology required to support their digital transformation. The European Commission thereby stepped up its efforts to support cloud uptake in Europe as part of its strategy, notably with the pledge to facilitate "the set-up of a cloud services marketplace for EU users from the private and public sector". DOME is materialising the envisioned online marketplace, providing the means for accessing trusted services, notably cloud and edge services, building blocks deployed under the Common Services Platform and more generally any software and data processing services developed under EU programmes such as the Digital Europe Programme, Horizon 2020 or Horizon Europe.

Relying on Gaia-X concepts and open standards, DOME is providing the finishing touch to the technical building that the Digital Europe Program is creating for boosting the development and adoption of trusted Cloud and Edge services in Europe. It will provide the single point for enabling customers and service providers to meet each other in a trustful manner. DOME is taking the form of a federated collection of marketplaces connected to a shared digital catalogue of cloud and edge services. Each of the federated marketplaces will be independent or connected to the offering of a given cloud/edge infrastructure service provider which, in turn, can be classified as

cloud IaaS providers or cloud platform service providers (each of which provide a platform targeted to solve the integration of vertical data/application services from a given vertical domain, like smart cities or smart farming, or the integration of certain type of data/application services, e.g., AI services). DOME is relying on the adoption of common open standards for the description and the management of the lifecycle of cloud and edge service products and offerings around those products, as well as their access or match-making services through a shared catalogue.

What will I accomplish following this guide?

After following this guide, you will have a complete and functioning integration of a marketplace in a federated DOME environment.

The following sections provide details about the necessary steps:

- Onboarding: How to perform onboarding as DOME participant (Note, that this topic is currently under discussion and details will be added later).
- Distributed components: How to configure, deploy and operate the different required components. This involves the access node and components required for the IAM.
- Authentication: How to authenticate at services and how to implement the authentication.
- Integration API: How to integrate with the TMForum APIs, especially when using an own marketplace implementation instead of the BAE. Some samples and tutorials are given for core federation scenarios.
- Policies: How access policies are defined, created and enforced (Note, that this topic is currently under discussion and details will be added later).

Pre-requisites

There are some prerequisites that need to be fulfilled before following this guide:

- Domain: You need control over an own domain and have access to the DNS settings.
- Public access: Certain components need to be publicly accessible under your own domain. Therefore, a suitable infrastructure (like a cloud-hosted Kubernetes cluster) is required for running the components.

Additional prerequisites are provided in the different sections.

Revision #4
Created 21 May 2024 15:43:25
Updated 28 May 2024 16:43:05