

# FAIR Distribution & Deployment

Maarten van Gompel & Mario Mioldijk, KNAW HuC

## Introduction (1)

- ▶ We are building a common infrastructure
- ▶ Tools need to be **distributed** properly by tool developers
- ▶ Tools need to be **deployed** in the infrastructure *as a service*.
- ▶ De-coupling between **applications provider** (distribution) and **infrastructure provider** (deployment)

This epic/shared service provides the embedding for this. Logical successor of the DevOps IG (RIP)

## Introduction (2)

- ▶ **Distribution of tools**

- ▶ How can CLARIAH developers publish their tools?
- ▶ Facilitate installation for end-users and infrastructure providers

- ▶ **Deployment of tools**

- ▶ Install a tool locally
- ▶ Deploy a tool as a service in an infrastructure
- ▶ What infrastructure demands does CLARIAH make?

## Scope: aspects of distribution & deployment

- ▶ **Version control**
- ▶ **Packaging**
- ▶ **Containerisation**
- ▶ **Container Orchestration**
- ▶ **Infrastructure as Code** (decoupling)
- ▶ **Security**
  - ▶ Tools to Data / Data to Tools
  - ▶ Automated vulnerability scanning
- ▶ **Scalability**
  - ▶ Load balancing
  - ▶ Horizontal scaling
- ▶ **Monitoring**
- ▶ **Workflows**: accommodating/pushing existing workflow solutions (DANE, NextFlow) within our infrastructure context

Broad scope! Most covered by existing WP2 tasks.

## Out of scope

We focus on the shared technical dimension here, so out of scope are:

- ▶ Governance
- ▶ Service License Agreements etc. . .
- ▶ Hardware acquisition

# User Stories

- ▶ **As a scholar, I** want to apply a processing tool on a (possibly large) data set in the CLARIAH infrastructure, either using computational resources provided by the CLARIAH infrastructure in order to be able to do quick and efficient processing on (large) data sets without needing my own infrastructure.
- ▶ **As a scholar, I** want to apply a processing tool on a large data set *within my own infrastructure* in order to take the tools to my (possibly restricted) data and work in my own secure environment.
- ▶ **As a scholar, I** expect to have access to low-level CLARIAH tools in industry-standard ways **in order to** use the tools in my own development setting.

# Deliverables

- ▶ **Technical Requirements**

- ▶ Software Requirements
- ▶ Infrastructure Requirements
- ▶ Already worked on in 2021 and first version available for further review

- ▶ **Provisioning services with documentation (WP2)**

- ▶ Docker Registry
- ▶ Authentication & Authhorization Provider (federated, single sign-on)
- ▶ Version control platform for infrastructure as code
- ▶ Monitoring Solution
- ▶ Continuous Integration/Deployment

## Gaps and Challenges

- ▶ Coordinating this, transparently, over multiple institutes
  - ▶ Not a KNAW HuC only endeavour!
- ▶ Providing clear documentation