

Authors : Jelle Scholtabers^{1,2}, Matthias Monfort¹, Nayeem Reza¹, Laurent Thomas¹, **Charles Girardot¹**

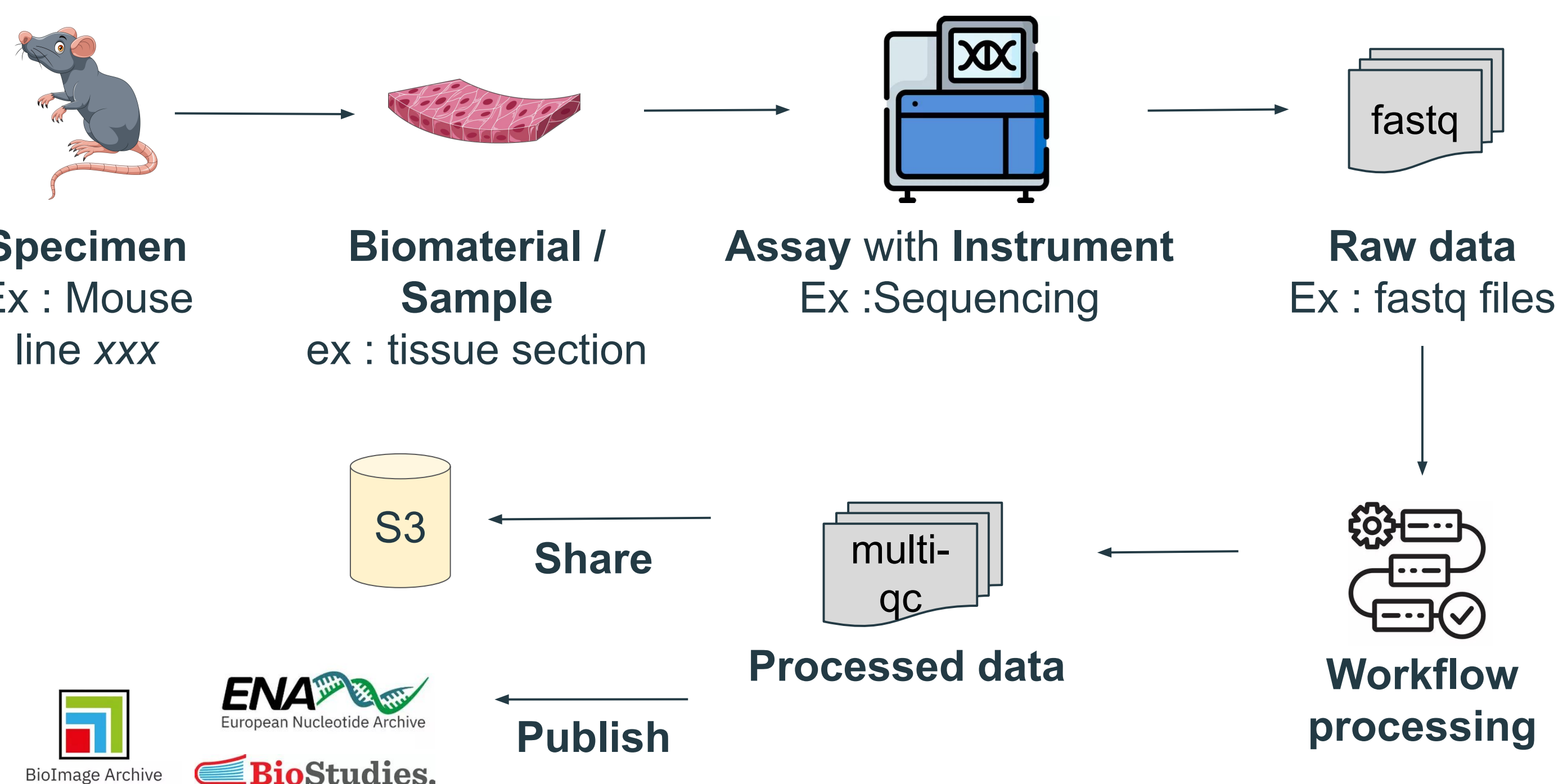
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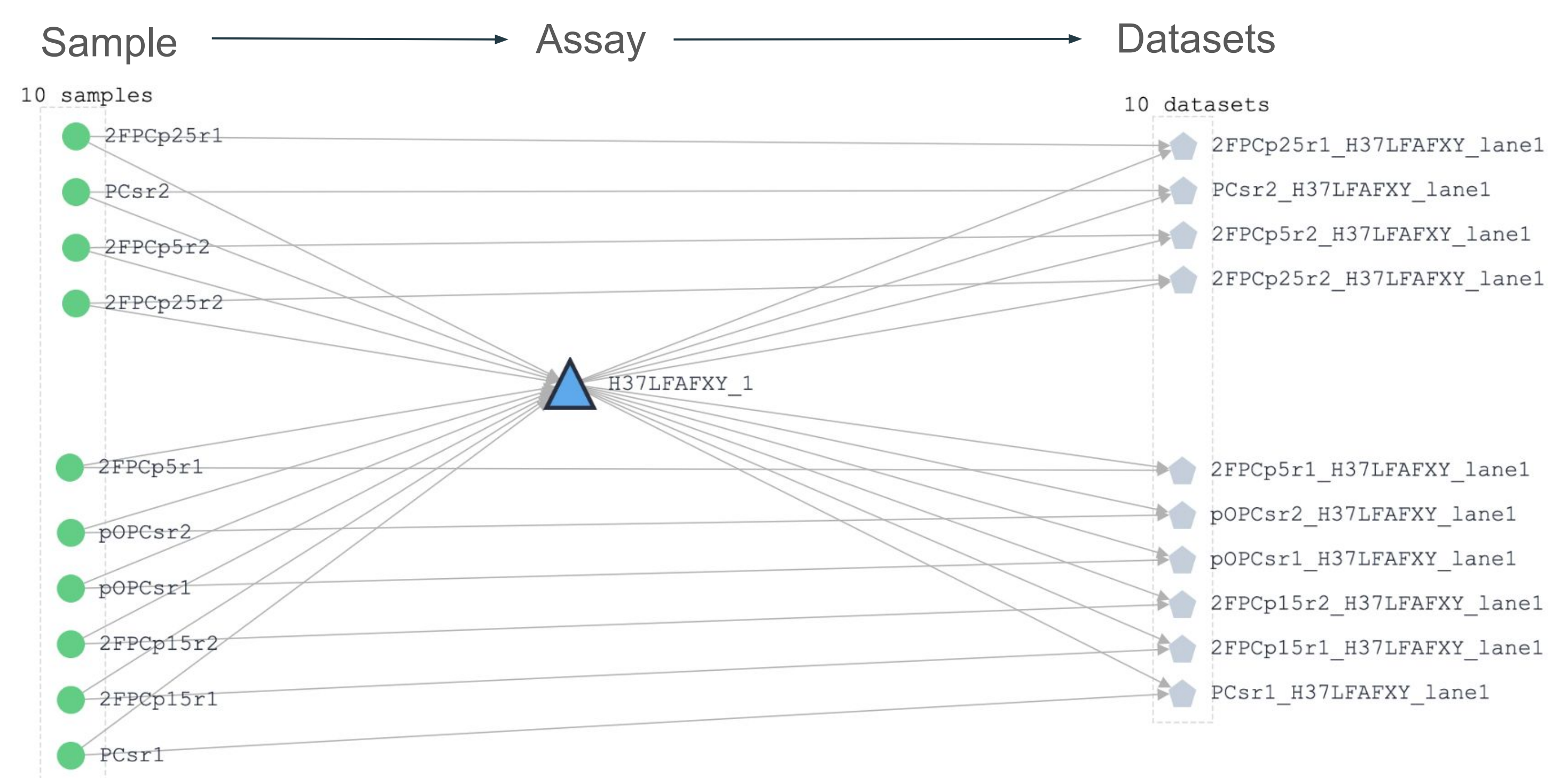
Lab Integrated Data (LabID) is an open-source web-based integrated platform for research data management featuring sample and dataset management, an inventory management system and an electronic lab notebook. It is designed to help individual scientists, research groups and core facilities better manage, annotate and share their experiments, assays, samples and datasets actively according to FAIR principles. LabID allows recording extensive information about the provenance of data (samples, reagents, instrument, protocols, assay parameters). The **LabID workflow integration** extends on this functionality by documenting the provenance of processed-data, typically originating from computational workflows. Besides enriching metadata about data-provenance, this new development facilitates workflow versioning, collaborative workflow development and tracking of workflow invocations with associated data and metadata. Additionally, LabID seamlessly integrates with git, WorkflowHub and Galaxy for the import and export of workflows and workflow invocations.

LabID principle : recording provenance from sample to data

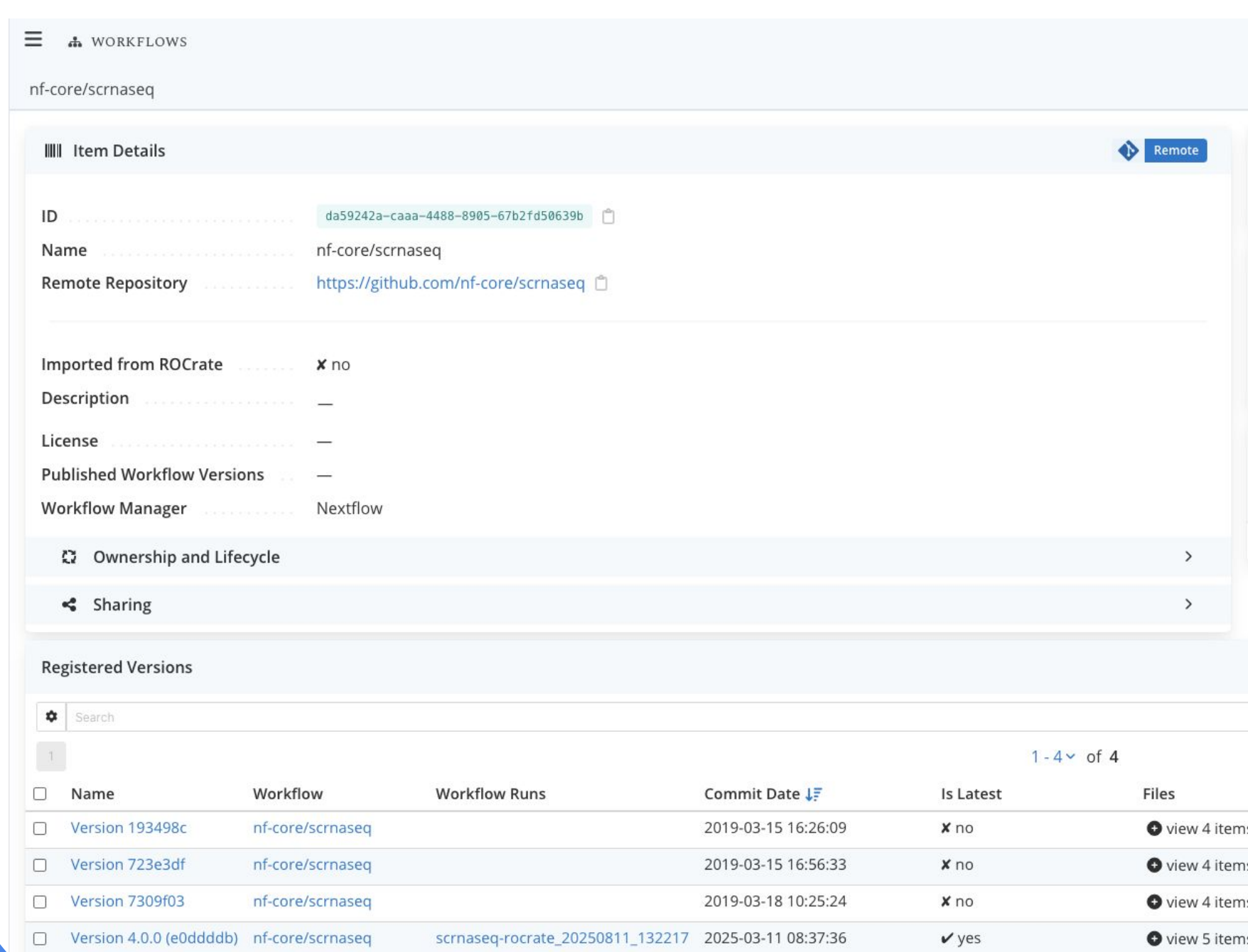


Tissue section : "Image provided by Servier Medical Art (<https://smart.servier.com/>), licensed under CC BY 4.0

Visual representation of data-provenance



Workflow object models



Workflow

Name and metadata about workflow manager, license, remote repository (optional), etc...

Workflow version(s)

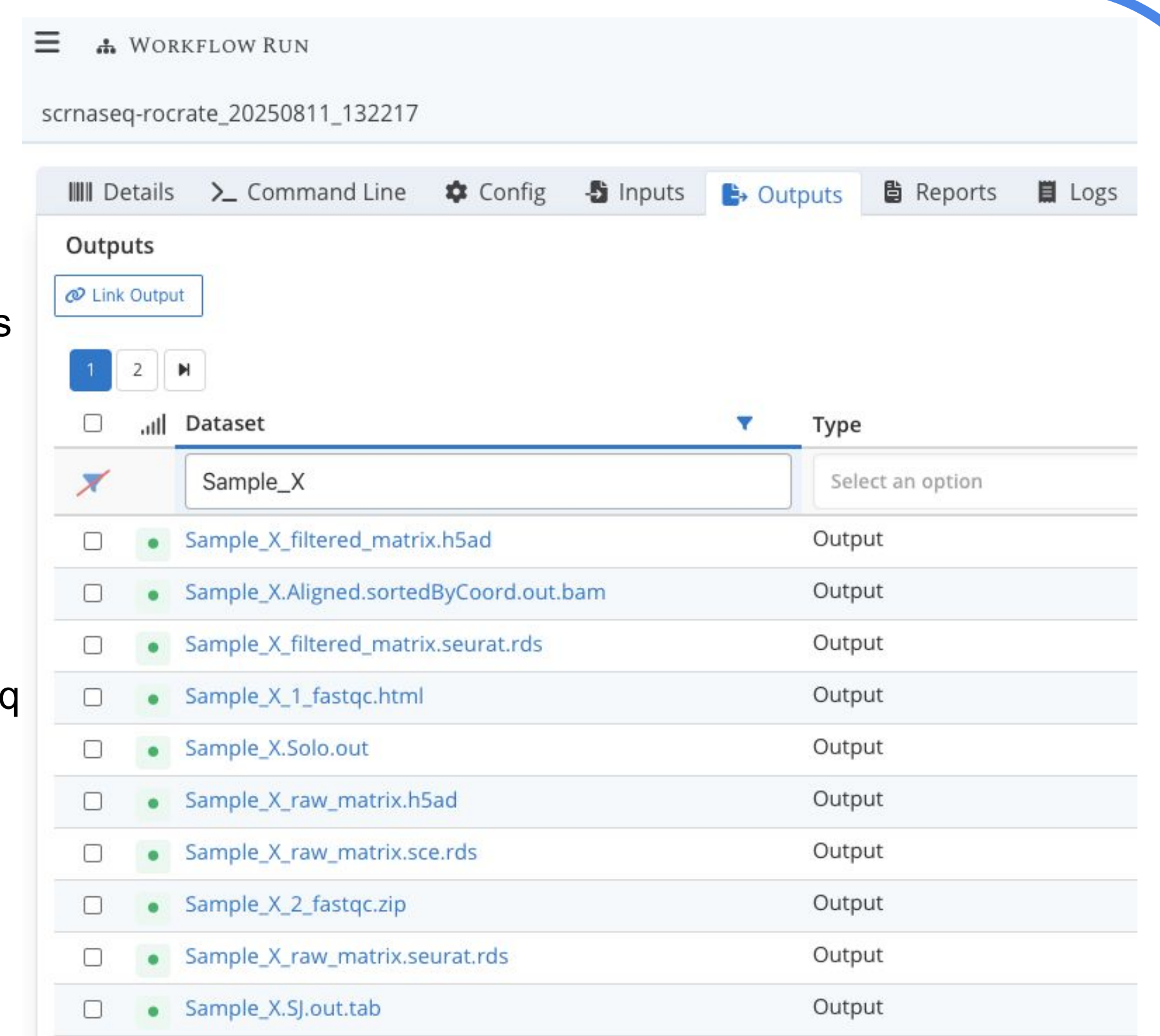
Associated to the workflow with version-specific files (workflow files, dependencies...)

Workflow run (or "invocation")

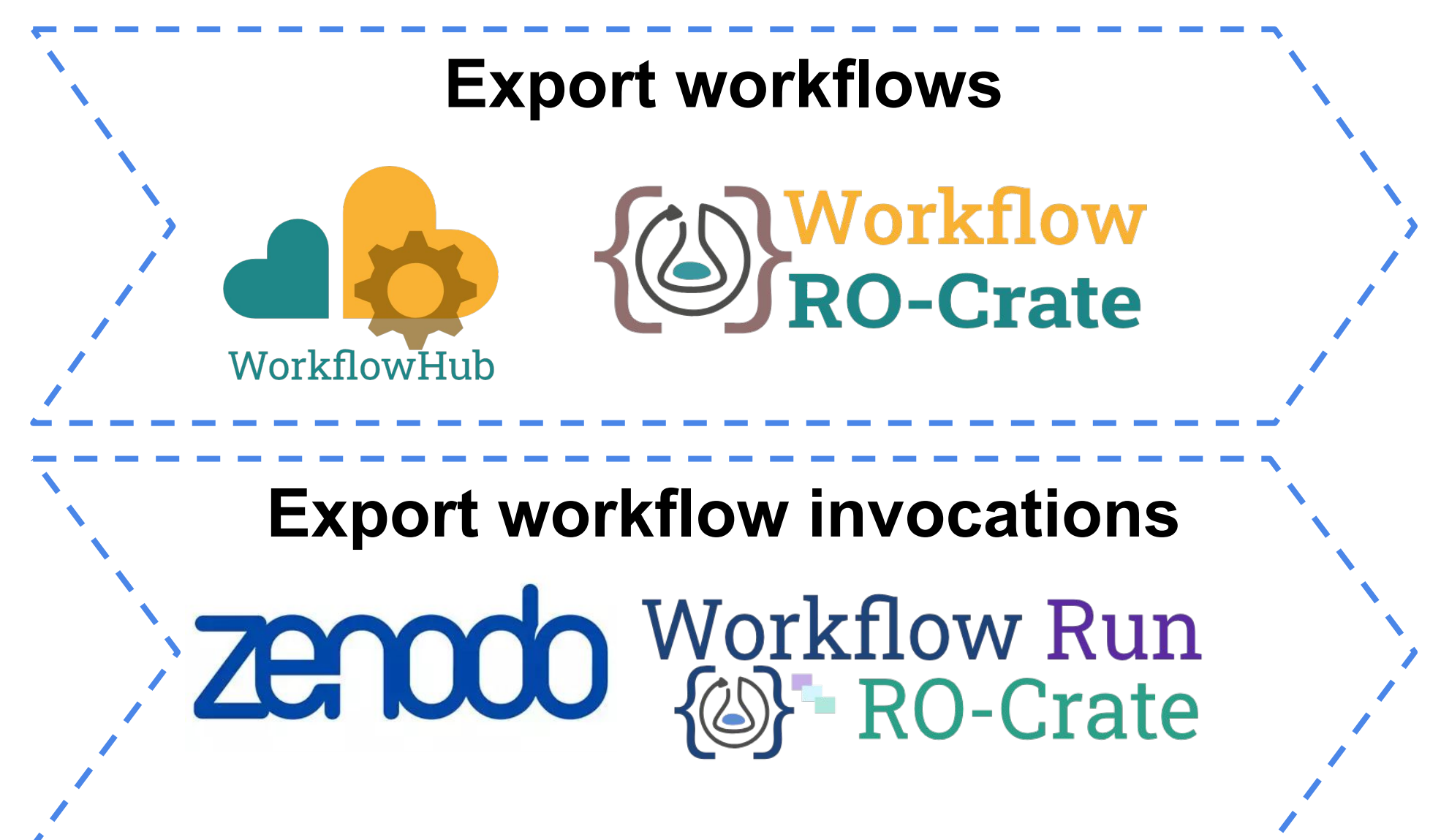
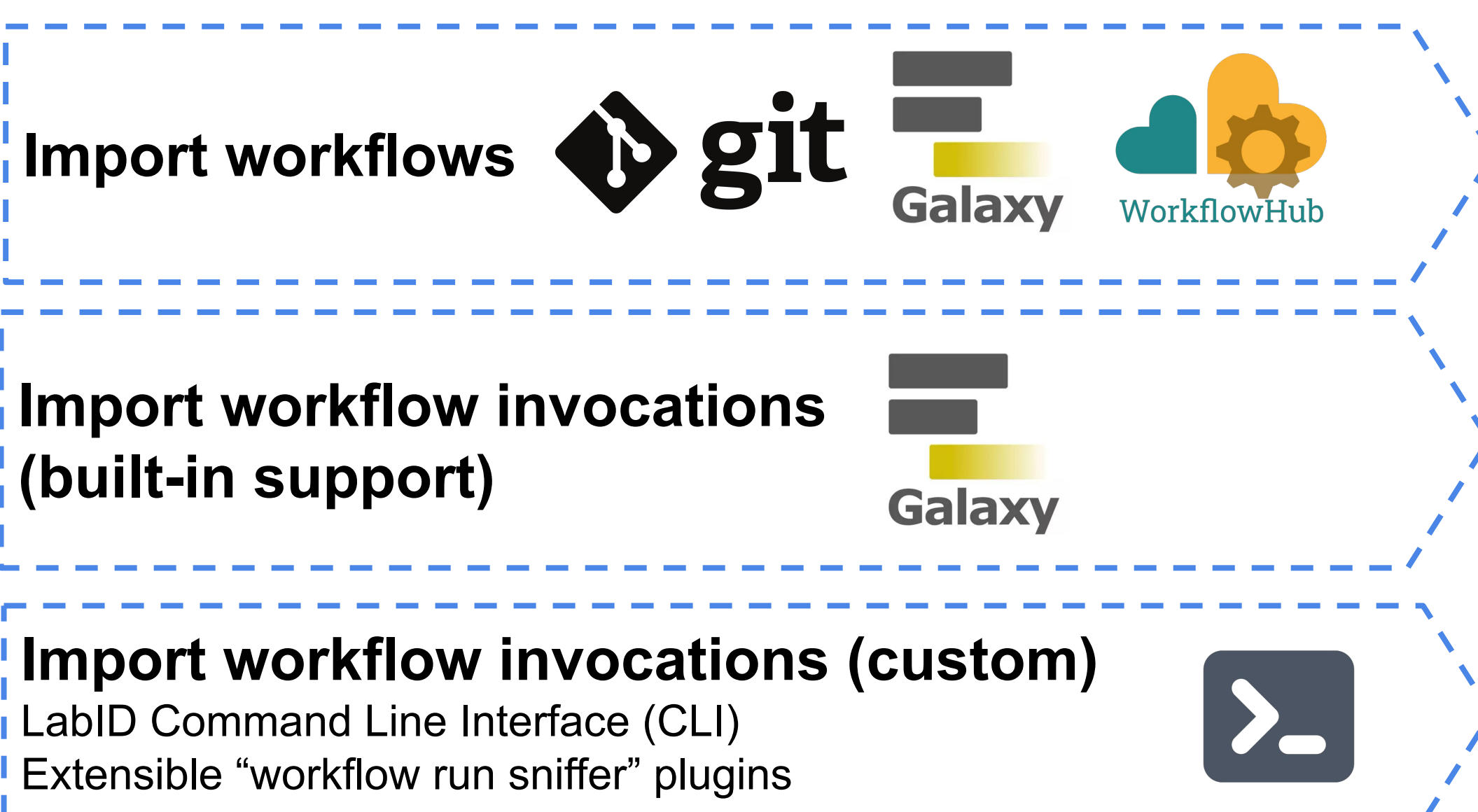
- Reference to a workflow version
- Associated datasets, organised by types (inputs, outputs, logs, reports...)

Example

Output datasets for a run of nf-core/scrnaseq filtered for a specific sample



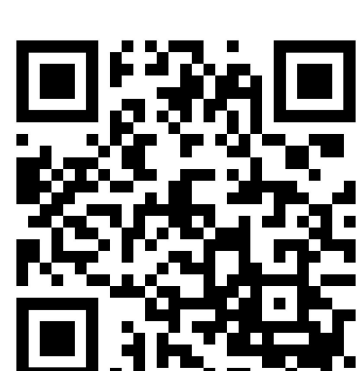
Interoperability with workflow ecosystem



Open-source repos (GitLab)



Try it out !
labid-demo.embl.de



Docs and tutorials (including videos)

