Using registries to integrate bioinformatics tools and services into workbench environments

The diversity and complexity of bioinformatics resources presents significant challenges to their localisation, deployment and use, creating a need for reliable systems that address these issues. Meanwhile, users demand increasingly usable and integrated ways to access and analyse data, especially within convenient, integrated “workbench” environments. Resource descriptions are the core element of registry and workbench systems, which are used to both help the user find and comprehend available software tools, data resources, and Web Services, and to localise, execute and combine them. The descriptions are, however, hard and expensive to create and maintain, because they are volatile and require an exhaustive knowledge of the described resource, its applicability to biological research, and the data model and syntax used to describe it. We present here the Workbench Integration Enabler, a software component that will ease the integration of bioinformatics resources in a workbench environment, using their description provided by the existing ELIXIR Tools and Data Services Registry.
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