# Question Answering and Chatbots

## 5th Practical exercise – Qanary Framework

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November 10, 2021

Hochschule Anhalt
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# Plan for today

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- Demo Session;

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- Hands-on with Qanary Framework.

Let's start the demo.

# Frameworks for Quesiton Answering & Chatbots – Low Code

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Dialogflow

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Microsoft Bot Framework

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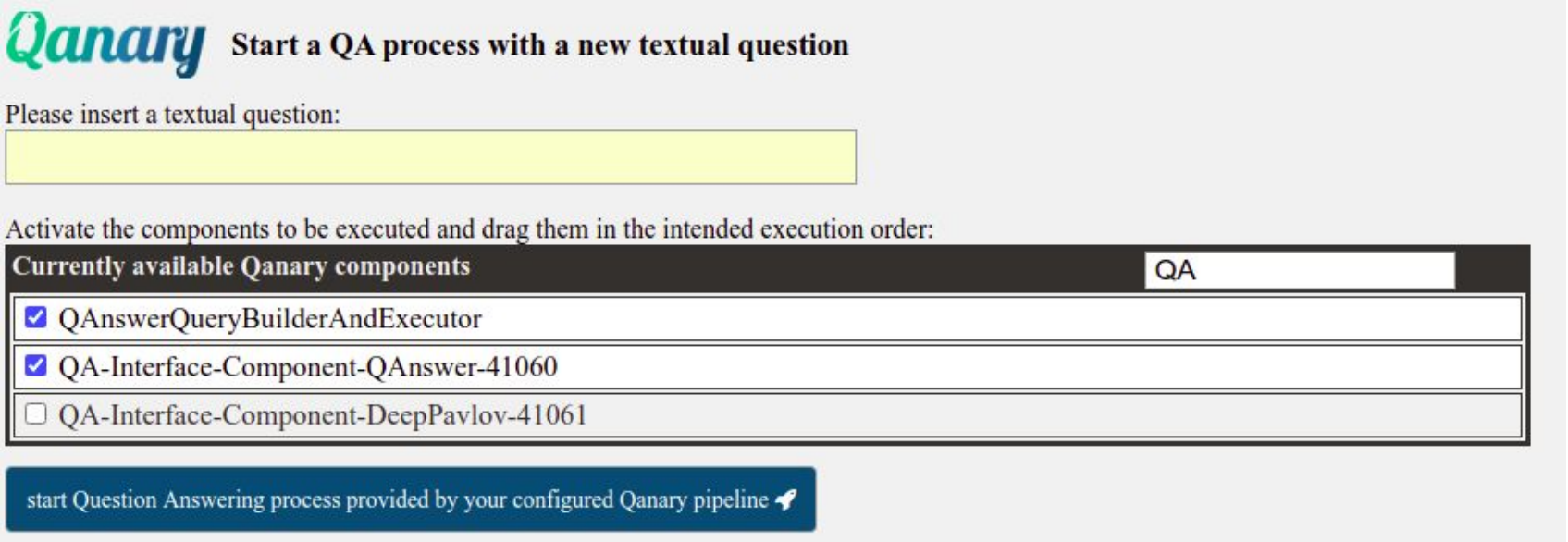
- each **component** is implemented as a micro-service and agnostic to the used programming language;
- the **components** interact with each other by writing and reading standardized RDF annotations from a common triplestore;
- a user of the framework may reuse **components**, developed and deployed by other users without having access the source code;
- the question answering process becomes transparent, interpretable, and explainable because all the data generated by **components** is stored in a triplestore (i.e., the process can be traced).

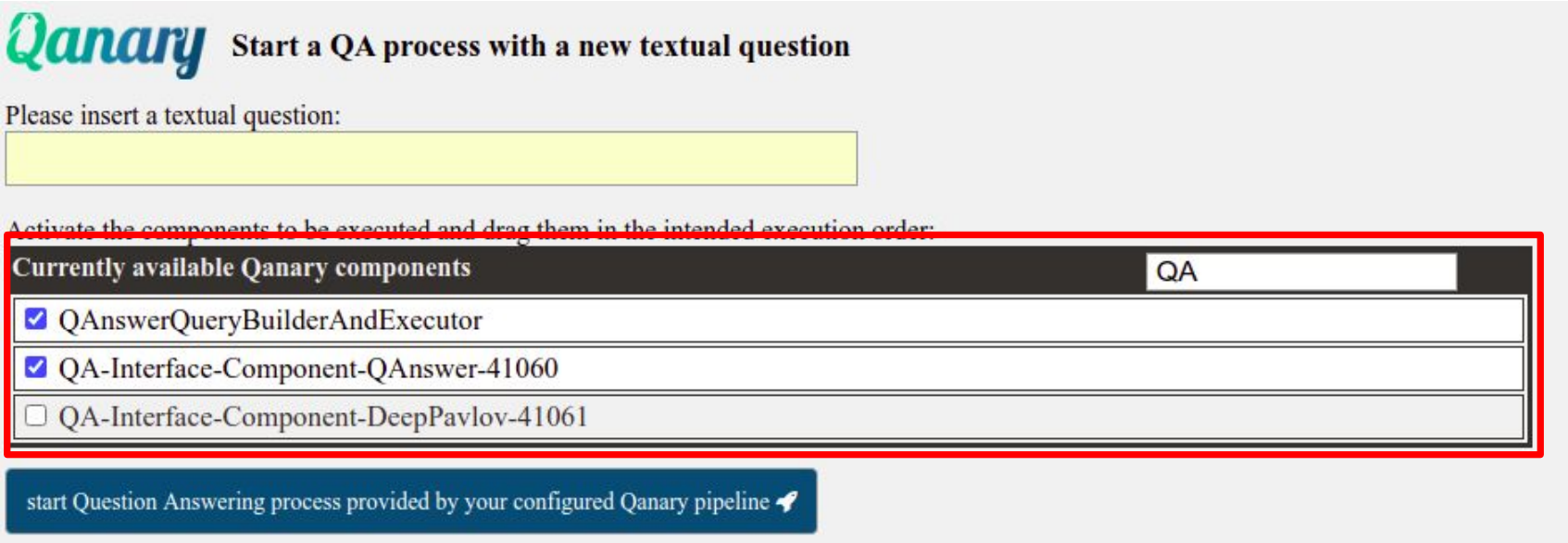
# Qanary Pipeline

Serves a similar to API gateway function which is to execute components with certain parameters in a certain order.



# Qanary Components

Set of components that were developed and deployed by the Qanary community (note: be aware that this is just an open collection, there might be many more components out there).



# Qanary Annotations

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    ?newAnnotation oa:hasBody "sparqlQuery"^^xsd:string .
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    }
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[1] http://www.w3.org/TR/annotation-model

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...this RDF data is called *semantic annotations of the given question*[1]

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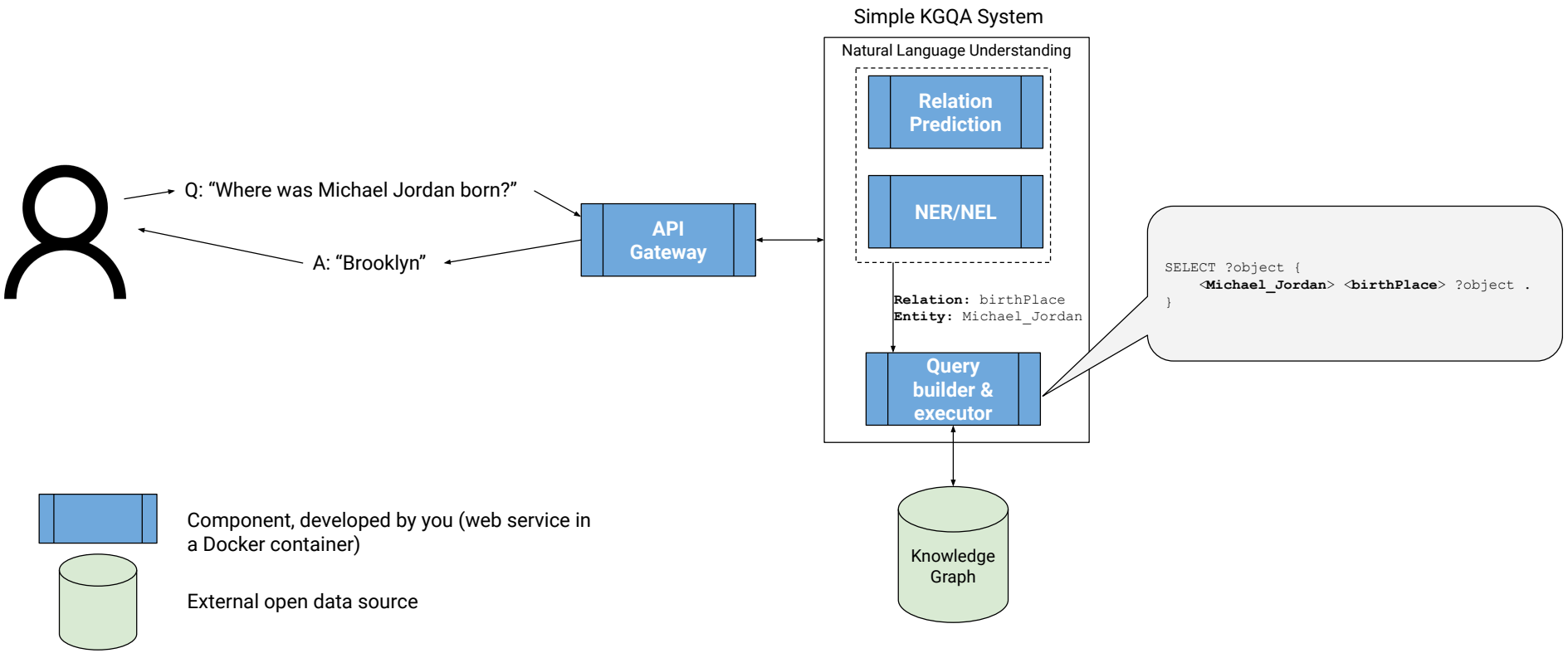
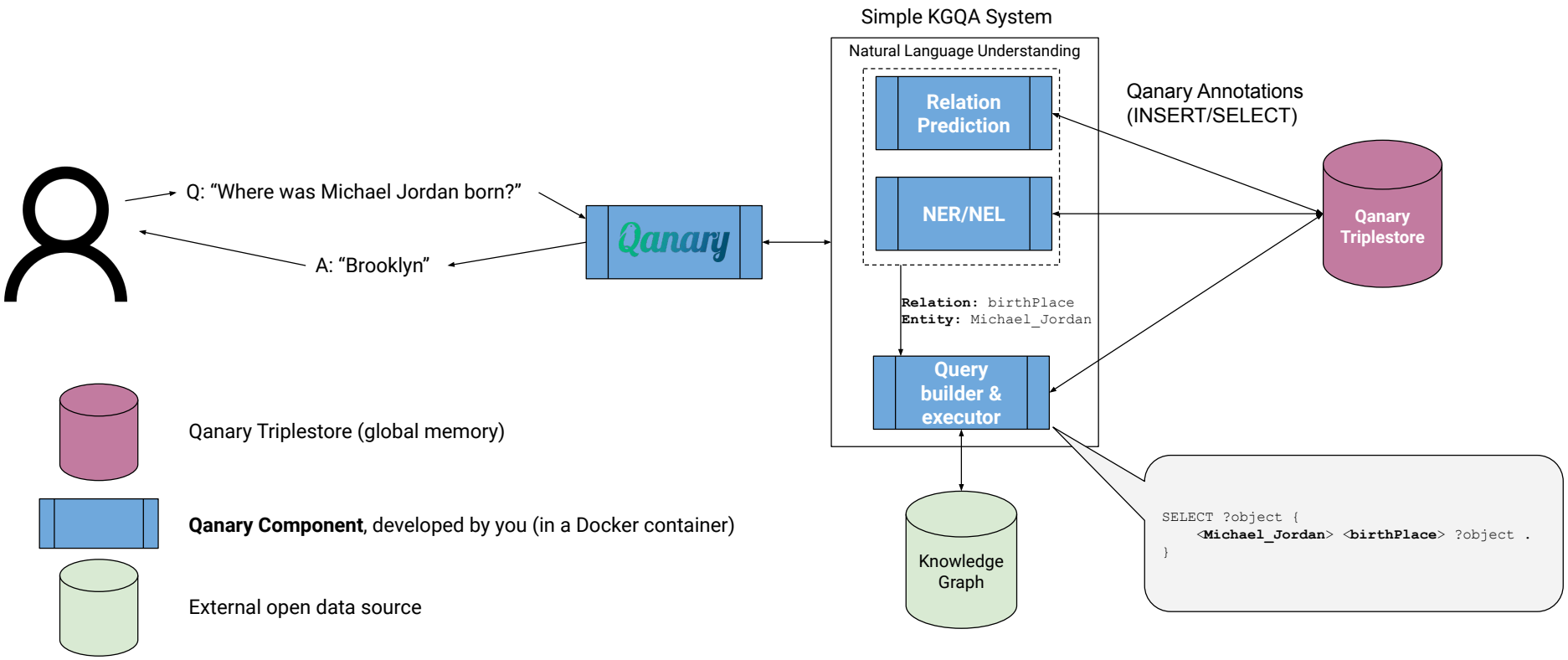
# Your system architecture so far



# System architecture with Qanary Framework



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2. Transform components to Qanary framework – wrap your functionality according to the example;
3. Ask questions with Qanary pipeline – you can debug it by executing SPARQL queries on the triplestore[2];
4. Use general chatbot frontend to connect your system with the user interface with no coding.

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Hands-on with Qanary Framework

Let's do the exercise!

# Plan for the Exercise 6: Evaluation of QA systems

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- Qualitative metrics – rate your experience.
- Component-level metrics.

0 Introduction;

1 NER & NEL;

2 Question classification & Web service/API;

3 SPARQL queries over Knowledge Graphs;

4 Simple KGQA system – based on exercises 0, 1, 2, 3;

5 **Qanary Framework – component oriented approach**;

6 ~~Simple ODQA system;~~

6 Evaluation of QA systems.