Quark XML SQUs

The Quark XML SQUs (Storage Query Units) form the storage component of Quark, and provide the implementations of the SQUs that can be used in Quark.

A SQU has the following functions:

- It returns an ID corresponding to a piece of data. This is the storage aspect of the SQU.
- It returns the XML fragment corresponding to that ID. This is the querying aspect of the SQU.

- It returns a YQGM graph and a particular node in the graph. The SQU can generate candidate evaluation plans for the portion of the graph rooted at that node. These candidate evaluation plans can then be used by the optimizer to generate an evaluation plan for the whole query.

The libraries under Quark XML SQUs are as follows:

- squ: This is the interface that all SQU implementations must follow. It contains the implementation of the SQU interface, which contains the interface of SQUs that must be provided to the optimizer, so that it can utilize the candidate evaluation plan generated by the SQUs.
- squ_default: This is the default SQU that generates an evaluation plan for any given node of a YQGM graph. The evaluation plan for the query can always be stitched together using the default SQU. The default SQU ensures the YQGM graph is mapped to a physical evaluation plan which can then be evaluated directly. The default SQU also creates mappings between the logical YQGM operators and the physical operators for creating the physical versions of these operators. The mapping along with the evaluation plan will then be used by the evaluator for evaluation.

Users wishing to add their own SQUs should implement the interface in the squ library, and register their SQU in the Quark XML DB System.