

LivCos

Data Access

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1 General Concept

The Cosmos represents data from various sources in a hierarchical structure. With the data access concept different types of data sources can be integrated and applied to the Cosmos interface.

1.1 Projection

The data accessed by the Cosmos is projected into an object node as child nodes.

2 File System

The file system gets accessed with the help of the `java.io.File` class.

2.1 FileDataAccessNode

With a file data access node we can project the files content as a sibling node into the Cosmos. External changes to the file will be detected by the new modified time stamp of the file and the root node is rebuilt.

2.1.1 XML Files

For a valid XML file it's root node will be placed at the direct following sibling to the data access node. As an observer to this root node the file data access node will update the corresponding file with the according changes.

2.1.2 Data Files

Files not containing well formatted XML data are managed as binary data in the Cosmos. The sibling node directly following the data access specification node acts as a container root for the binary node with the file content.

2.2 FolderDataAccessNode

A folder access node automatically specifies file and folder data access nodes for it's containing files and sub-folders.

External changes to the file will be detected by the new modified time stamp of the folder and the specifications (file and sub-folder data access nodes) are rebuilt.

3 Relational Database

Over the JDBC interface the Cosmos can access data stored in relational databases.

3.1 Database Connection

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3.2 SQL Queries

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3.3 SqlDataAccessNode

The results of an SQL query, run on a specific database (database connection), will form the content of the SQL data access node following sibling.

3.4 DdlDataAccessNode

A DDL data access node allows direct access to the meta data of a specific database (database connection).