Key-Value Data Store.

Documentation Index:

- **Project Completion Status**

Design	Yes
Use case diagram	Yes
Class Diagram	Yes
Sequence Diagram	Yes

Read Operation	Yes
Write Operation	Yes
Delete Operation	Yes

1. **Project Overview:**

A file based key value data-store, that is used for storing file-based JSON Objects with keys(Strings).The library should be able to store the key value pairs at a specified location in the laptop or at default location.

Requirement Analysis:

- **User Requirements Analysis:**
  - The proposed system should be able to store JSON Objects(file-based) with keys as **Key-Value Pairs**
  - The system should be able to support the basic **CRD(Create, Read and Delete)** operations.
  - The key value should not exceed **32 chars**.
  - The JSON Object should be capped at **16KB.**
  - **The proposed system should be exposed as a library to the client.**

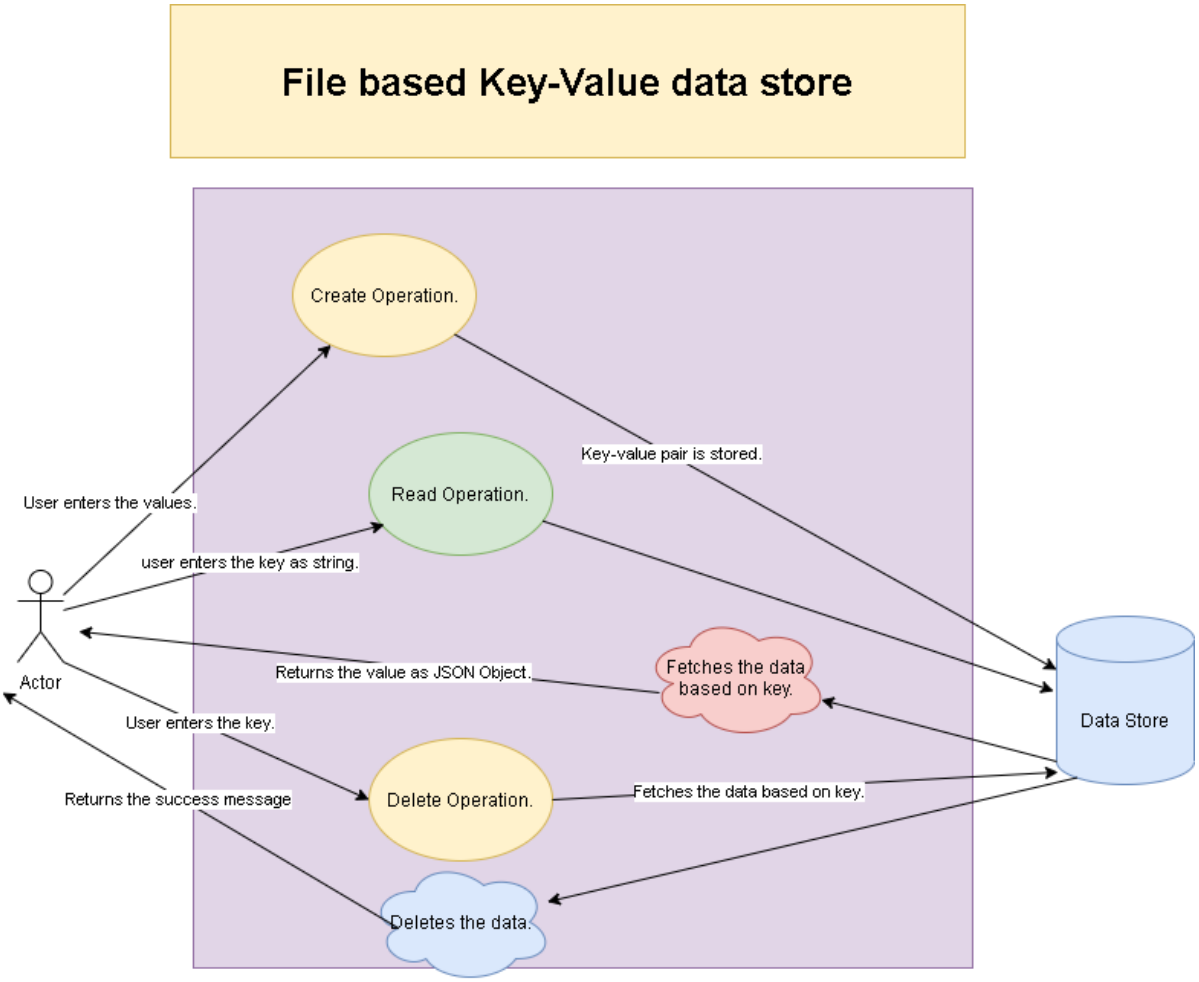
2. Libraries and dependencies used:

- **JAVA:** The key-value data store is entirely created using the java programming language. JSON-simple-data JAR and Jackson-data-bind JAR are used in order to work with JSON Objects.

3. Features :

1. Create Operation
2. Read Operation
3. Delete Operation

4.Use Case Diagram:



4.2 Fully Dressed Use Case:

- **Create Operation:**

Use Case Headings	Explanation
Name	Create operation
Scope	Storing key-value pairs in file
Pre-Conditions	The key should be a string and value should be a JSON Object
Success Guarantee	The data is stored as key-value pair in file in specified location
Frequency of occurrence	Quite often occurring use case(High-priority)

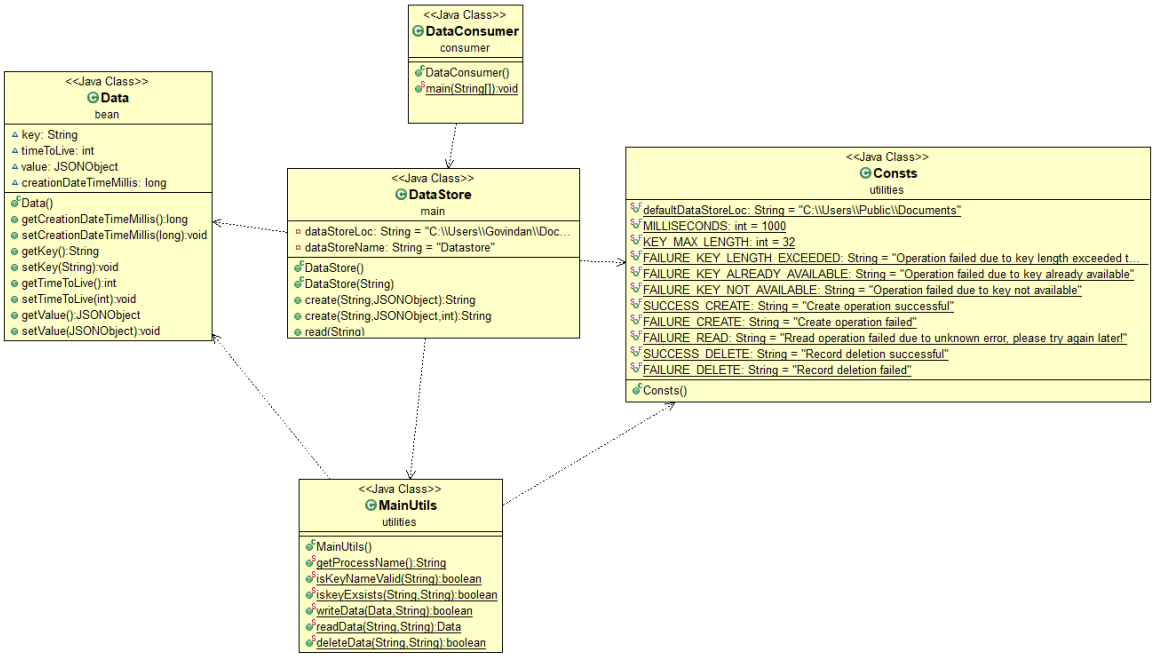
- **Read Operation:**

Use Case Headings	Explanation
Name	Read Operation
Scope	Returning the value associated with the given key.
Pre-Conditions	The given key should exist.
Success Guarantee	The JSON Object should be returned.
Frequency of occurrence	Quite often occurring use case(High-priority)

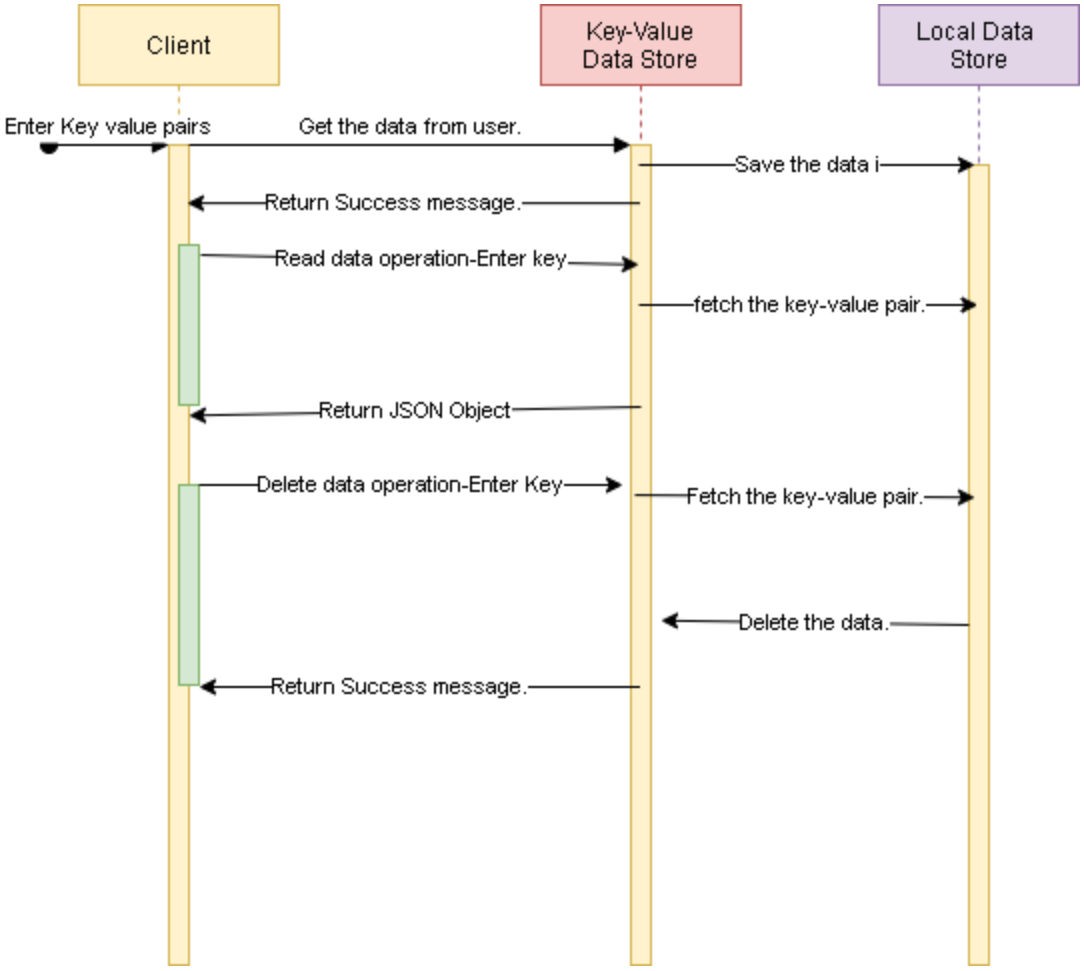
- **Delete Operation:**

Use Case Headings	Explanation
Name	Delete Operation
Scope	The key-value pair associated with the given key is deleted.
Pre-Conditions	The given key should exist.
Success Guarantee	The data is deleted.
Frequency of occurrence	Moderate(Medium-priority)

5.Class Diagram :



6. Sequence Diagram:



7.Features and utilities:

- The library provides a file-based key-value data store to perform basic CRD operations on a file based system.
- **HashMap** data structure is used for storing key-value pairs and look up and hence the data access is efficient.
- No query language is required to perform operations.
- Appropriate error messages are returned, to keep track of the operations.

8.Conclusion:

Thus, a file based key-value store library(system) that supports basic CRD(Create, Read and Delete) operations is created using Java. The key-value store system are scalable, flexible and are highly consistent in handling read/write operations in file.

Done By:

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