

Lesson 3

Document Store

Characteristics of Document Data Store

- High performance and flexibility
- Scalability varies, depends on stored contents
- Complexity is low compared to tabular, object and graph data stores.

Features of Document Store

1. Document stores unstructured data.
2. Storage has similarity with object store.
3. Data stores in nested hierarchies. For example, in JSON formats data model [Example 3.3(ii)], XML document object model (DOM), or machine-readable data as one BLOB.

Document Tree

- Hierarchical information stores in a single unit called Tree in a unit.
- No object relational mapping enables easy search by following paths from the root of document tree

Document Querying

- Easy. For example, using section number, sub-section number and figure caption and table headings to retrieve document partitions

Example of Document Stores

- CouchDB
- MongoDB.

CSV File Format

- CSV format for records [Example 1.9 and Example 3.3(i)]
- CSV does not represent object-oriented databases or hierarchical data records

CSV Example

Semester, Subject Code, Subject Name,
Grade

1, CS101, ““Theory of Computations””,
7.8.

1, CS102,1, ““Computer Architecture””,
7.8.

JSON (Java Script Object Notation)

- Semi-structured data
- object-oriented records and hierarchical data records
- JSON refers to a language format for semistructured data. JSON represents object-oriented and hierarchical data records, object, and resource arrays in JavaScript

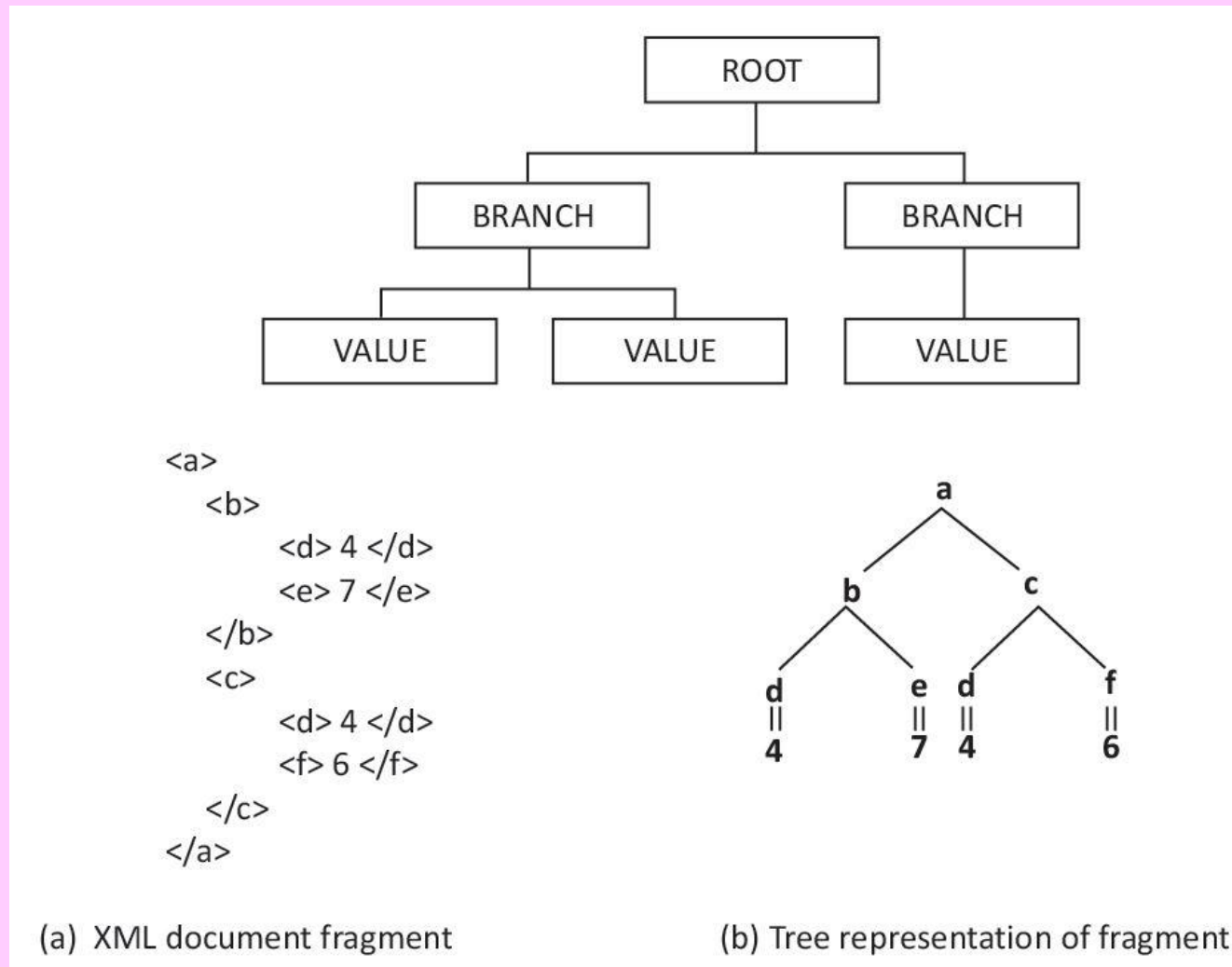
XML (eXtensible Markup Language)

- An extensible, simple and scalable language. Its self-describing format describes structure and contents in an easy to understand format
- XML is widely used. The document model consists of root element and their sub-elements. XML document model has a hierarchical structure. XML document model has features of object-oriented records. XML

XML (eXtensible Markup Language)

- XML document model has a hierarchical structure. XML document model has features of object-oriented records. XML format finds wide uses in data store and

Figure 3.5 XML document architecture pattern



Document JSON Format

CouchDB Database

- Provides mapping functions during querying, combining and filtering of information.
- Deploys JSON Data Store model for documents. Each document maintains separate data and metadata (schema).
- Multi-master application

Document JSON Format

CouchDB Database

- Write does not require field locking when controlling the concurrency during multi-master application.
- Querying language is JavaScript. JavaScript is a language which documents use to transform

Summary

We learnt :

- Document Store low complexity is low compared to tabular, object and graph data stores
- CSV, JSON and XML
- Document stores unstructured data
- Document Tree

End of Lesson 3 on Document Store