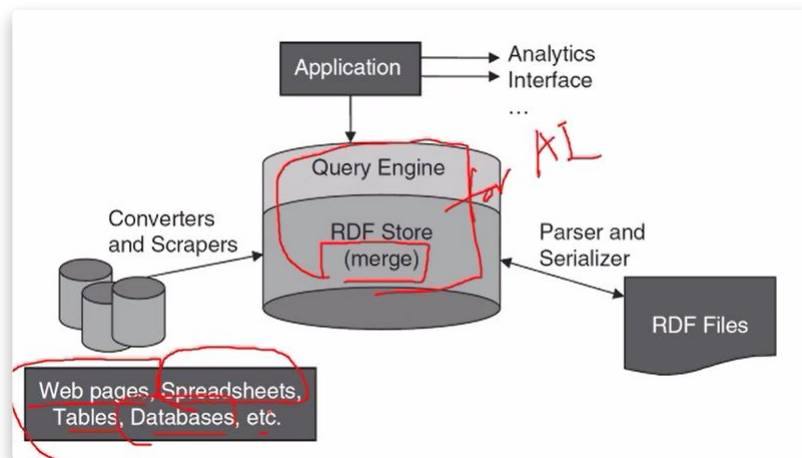


# CHAPTER 4 SEMANTIC WEB

## H3 1. RDF Parser & Store

- A System component for reading and writing RDF in one of several file formats.
  - An RDF parser reads text in one (or more) of these formats and interprets it as triples in the RDF data model.
  - An RDF serializer does the reverse; it takes a set of triples and creates a file that expresses that content in one of the serialization forms.
- RDF Store
  - An RDF store is a database that is tuned for storing and retrieving data in the form of triples.
- RDF Query Engine
  - The query engine provides the capability to retrieve information from an RDF store according to structured queries.



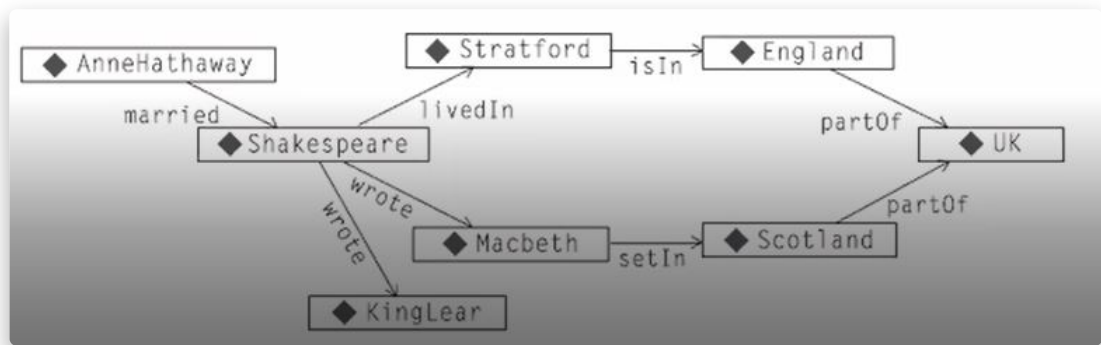
## H3 2. SPARQL

- SPARQL

From the common features of these query languages, the W3C has undertaken the process of standardizing an RDF query language called SPARQL.

- Triple Pattern
  - Variable : '?'
  - Subject, Predicate, Object
    - ?, Predicate, Object

- Subject, ?, Object
- Subject, Predicate, ?



- Example 1 : Who wrote 'KingLear'

- Triple Pattern

```
1 | ?w lit:wrote lit:KingLear
```

- SPARQL Result

```
1 | ?w = lit:Shakespeare
```

- Example 2 :

- Triple Pattern

```
1 | {?person bio:livedIn ?place.
2 |   ?person geo:isIn geo:England.
3 |   ?person lit:wrote lit:Kinglear.}
```

- Result

```
1 | - ?person = Shakespeare
2 | - ?place = Stratford
```

### **H3 3. Application**

- Here are some examples of typical RDF applications:
  - Calendar integration  
Shows appointments from different people and teams on a single calendar view
  - Map integration  
Shows locations of points of interest gathered from different web sites, spreadsheets, and databases all on a single map
  - Annotation  
Allows a community of users to apply keywords (with URIs) to information (tagging) for others to consult
  - Content management  
Makes a single index of information resources (documents, web pages,databases, etc.) that are available in several content stores