3.1 SPARQL Infrastructure

To perform a SPARQL query, one needs software to execute the query. The most common software that does this is called a *triple store*. Essentially, a triple store is a database for RDF. You can download a number of triple stores online. Within the specifications for SPARQL a triple store is referred to as a Graph Store.

Before one can query a triple store, it needs to be populated with RDF. Most triple stores provide bulk upload options. There is also a mechanism called SPARQL Update, which provides a series of options for inserting and loading as well as deleting RDF into a triple store. SPARQL Update will be discussed later in the chapter.

Once data is loaded into a triple store, it can be queried by sending SPARQL queries using the SPARQL protocol. Each triple store provides what is termed an *endpoint*, where SPARQL queries can be submitted. An important point is that clients send queries to an endpoint using the HTTP protocol. Indeed, you can issue a SPARQL query to an endpoint by entering it into your browser's URL bar! However, we suggest obtaining a client designed specifically for SPARQL. Again, there are a number of them available on-line.

Because SPARQL uses standard web technologies, you will find numerous SPARQL endpoints on the web. These endpoints provide access to large amounts of data. For example, dbpedia.org/sparql provides a query endpoint to query over an RDF representation of Wikipedia. You'll find a complete list of SPARQL endpoints at CKAN.org.

Once we have this basic infrastructure, we can start writing SPARQL queries.

3.2 Basics: Matching Patterns

Recall from the previous chapter the RDF describing the Baron Way apartment and its location: