When performing a mapping one must also create URIs for each of the entities. This can often be done by prepending a namespace to the beginning of the attribute or table name. Likewise, one can often use the *primary key* for the URIs of each instance. It is important to note that a main difference between relational databases and RDF is that RDF uses URIs to identify entities, which means that everything has a globally unique identifier. Relational databases, however, have identifiers that are unique only within the local scope of the given database.

7.6.2   Conversion Tools

Because of the systematic mechanism by which relational databases can be mapped to ontologies, it is possible to automate much of the conversion process. There are several tools available, as identified by the W3C Relational Database to RDF Incubator Group report on approaches to mapping relational databases to RDF. You can find a link to the report in the suggested reading. Most of these tools work by analyzing the structure of the relational database and then generating almost complete RDF. The user is then required to modify configuration files in order to specify more appropriate URIs as well as link to existing ontologies. For example, in our example above instead of using an auto-generated URI for Amsterdam, one might like to use a DBpedia URL instead.

Conversion tools are often used in two capacities. One is to expose a relational database directly as a SPARQL endpoint. The second is to convert in bulk a database to RDF, which can then be uploaded to a triple store. This later capacity is often done when integrating instance data with ontologies that need to be reasoned over. A good tool to begin with is D2R Server[23] as it provides both capacities in a fairly simple package.

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[23]http://www4.wiwiss.fu-berlin.de/bizer/d2r-server/.