CREATING, WRITING AND READING JENA TDB2 DATASETS

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Jena TDB2 can be used as an RDF datastore. Note that TDB (version 1 of Jena TDB) and TDB2 are not compatible with each other. TDB2 is per definition transactional (while TDB is not). In this post I give a simple example that

1. create a new Jena TDB2 dataset,
2. create a write transaction and write data to the datastore,
3. create a read transaction and read the data from the datastore, and
4. release resources associated with the dataset on writing and reading is done.

1. Create TDB2 Dataset

To create a Jena TDB2 dataset, we use the `TDB2Factory`. Note that the class name is `TDB2Factory` and not `TDBFactory`. We need to specify a directory where our dataset will be created. Multiple datasets cannot be written to the same directory.

```
Path path = Paths.get(".").toAbsolutePath().normalize();
String dbDir = path.toFile().getAbsolutePath() + "/db/";
Location location = Location.create(dbDir);
Dataset dataset = TDB2Factory.connectDataset(location);
```

2. Create WRITE Transaction and Write

```
dataset.begin(ReadWrite.WRITE);
UpdateRequest updateRequest = UpdateFactory.create(
  "INSERT DATA {<http://dbpedia.org/resource/Grace_Hopper> "
  + "<http://xmlns.com/foaf/0.1/name> \"Grace Hopper\" .}");
UpdateProcessor updateProcessor =
  UpdateExecutionFactory.create(updateRequest, dataset);
updateProcessor.execute();
dataset.commit();
```

3. Create READ Transaction and Read

```
dataset.begin(ReadWrite.READ);
QueryExecution qe = QueryExecutionFactory
  .create("SELECT ?s ?p ?o WHERE {?s ?p ?o .}", dataset);
for (ResultSet results = qe.execSelect(); results.hasNext();) {
  QuerySolution qs = results.next();
  String strValue = qs.get("?o").toString();
  logger.trace("value = " + strValue);
}
```

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4. Release Dataset Resources and Run Application

The dataset resources can be release calling `close()` on the dataset.

```
dataset.close();
```

Running the application will cause a `/db` directory to be create in the directory from where you run your application, which consists of the various files that represent your dataset.

5. Conclusion

In this post I have given a simple example creating a TDB2 dataset and writing to and reading from it. This code can be found on github.

References