Sqoop

A sample import

Databases supported include:

- MySQL
- PostgreSQL
- Oracle
- SQL Server
- DB2

Example import:

```
$ sqoop import --connect jdbc:mysql://localhost/db --table widgets -m 1
```

The `-m 1` will use only 1 map task to get a single file in HDFS. It will import in text format, however, it is possible to use a binary format.

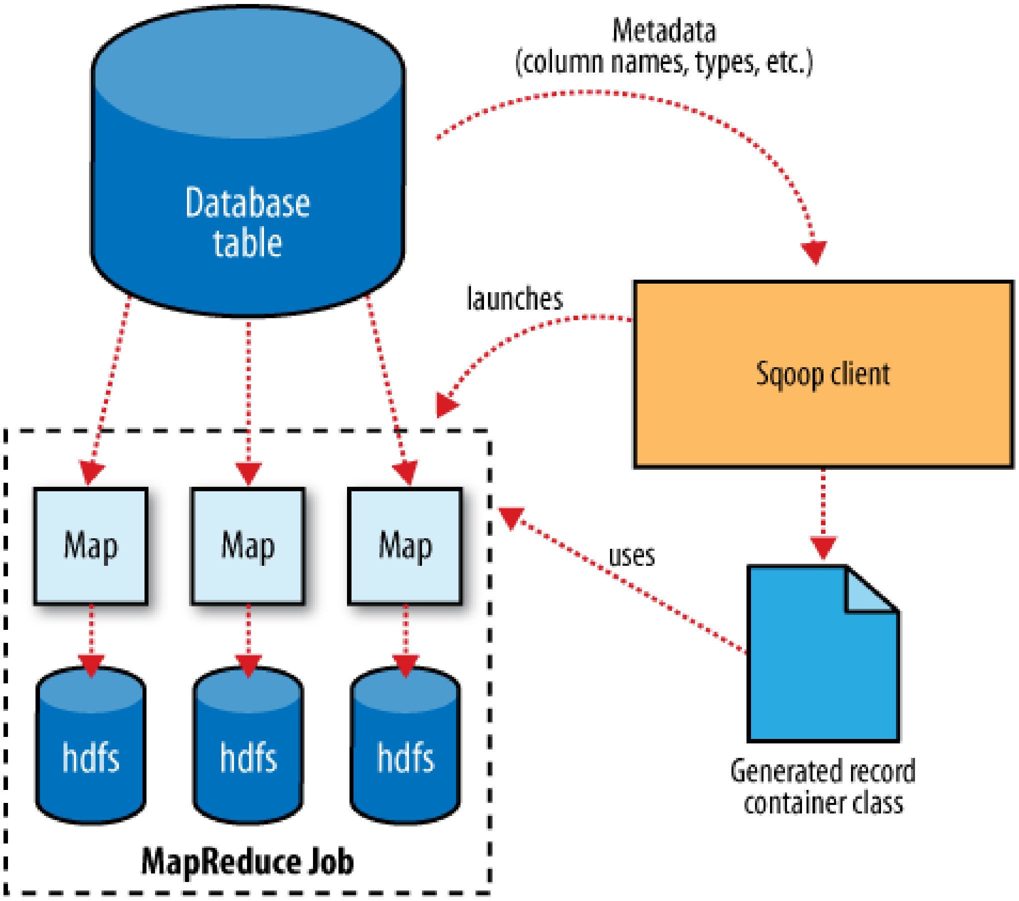
Generated code

When you do the import, it generates a *widget.java* written to the current local directory. This class is able of holding a record from DDBB, manipulate it in MR or store it in a SequenceFile in HDFS.

You can also generate the source code without importing importing the table with the command `sqoop codegen`.

Sqoop also supports Avro

Database Imports: A Deeper Look



Sqoop examines the table, get all columns and types to map the to Java types and create a model of the table. Then, with the **readFields(ResultSet res)** and the **write(PreparedStatement s)** reads and writes the ddbb

Hive tables throught Sqoop

```
$ sqoop create-hive-table --connect jdbc:mysql://localhost/my_db --table widgets --fiels-terminate

% hive> LOAD DATA INPATH "widgets" INTO TABLE widgets;
```

In short:

1. Import data into HDFS using Sqoop
2. Create a Hive table
3. Load the data into Hive

It can be done in a unique pass:

```
$ sqoop import jdbc:mysql://localhost/my_db --table widgets -m 1 --hive_import
```

Importing Large Objects (CLOB, BLOB)

Sqoop import large objects into a LobFile to access a field without accessing the record (it can be truly huge)

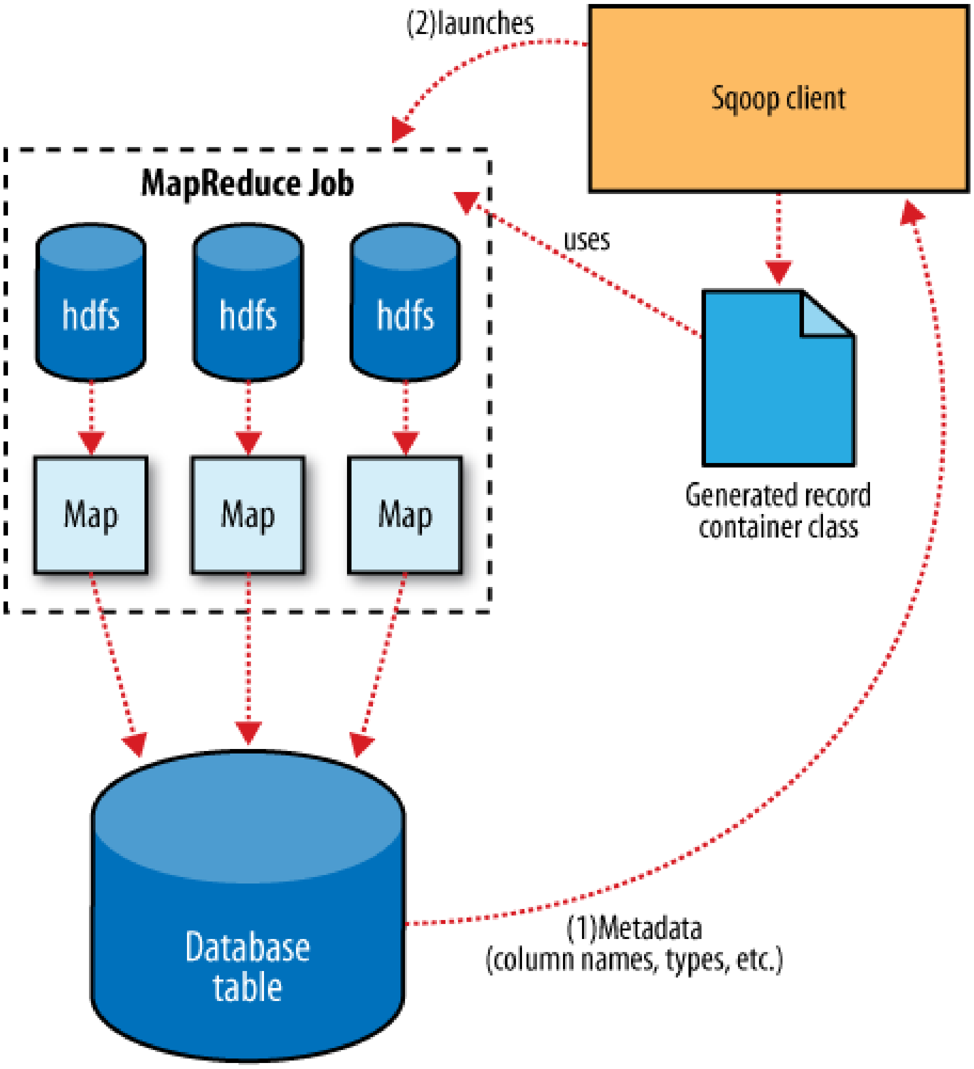
Performing an export

The database must be prepared and the data types must be set explicitly when creating the MySQL table. The command:

```
$ sqoop export --connect jdbc:mysql://localhost/my_db -m 1 --table sales --export-dir /user/hive/w
```

The `--input-fields-terminated '\0001'` is the default delimiter that is used in Hive

Exports: A Deeper Look



The export process is similar: some parallel tasks performs queries to the MySQL ddbb but they are nor ordered or atomic operations. Sqoop can also exports records stored in SequenceFiles