1. Implementation of DQGen web service:

* The code for DQGen engine is in /source\_code, and the code for web service is in /webapp and /web.
* The website is written in Django framework, currently we are running this web server on localhost, and we can access the website at [http://127.0.0.1:8000](http://127.0.0.1:8000/), but you can also deploy this web service on a public server if you want.
* The processor of DQGen requests from our website is: /DQGen/source\_code/processor.py, and it will keep querying the database in a fixed time interval and fetch one unprocessed request with the longest waiting time from database, then put the input file, configuration file and email address of this request to DQGen engine.
* When DQGen finish processing the request, the processor will send a generated output file to the given email address.

1. Configuration file:

* /DQGen/source\_code/src/global.properties is the configuration file for database login information and resource file path.

1. How to run DQGen web service:

* Set up the connection between localhost and DQGen MySQL server by running:

ssh -N -L localhost:3307:localhost:3306 [username@dqgen.oli.cmu.edu](mailto:username@dqgen.oli.cmu.edu)

and this command will take the DQGen MySQL server as our local host, and we can connect it in our local host at port number 3307 and 3306. In this way, our DQGen engine can set up connection to local host and access MySQL database in DQGen MySQL server.

* Run DQGen web service use:

python3 manage.py runserver 0.0.0.0:8000

at /DQGen folder, and you can access the website at [http://127.0.0.1:8000](http://127.0.0.1:8000/)

* Run the processor for DQGen request:

python3 processor.py

at /DQGen/source\_code folder.

1. Notes:

* If you make any modification to DQGen/web/models.py you should run:

python3 manage.py makemigrations

python3 manage.py migrate

to migrate all changes.

* If you make any modification to the source code in /DQGen/source\_code, you should recompile the code by running:

sh compile.sh

at folder /DQGen/source\_code, which will recompile the source code with correct dependencies.

1. About the DQGen machine and docker container:

* To login to our DQGen machine, run:

ssh [username@dqgen.oli.cmu.edu](mailto:username@dqgen.oli.cmu.edu), and enter your password.

* Currently our MySQL server is running in the docker container of our DQGen machine, and you can get into this docker container by running:

docker exec -it dqgen-core-mysql bash

then login to MySQL server by running:

mysql -u username –p, and enter your password, so that you can manipulate this MySQL server.