0. install mongodb, load the input data into database and collection that you created for the spark heatmap.

1. Install Spark: 1.4.1:
https://spark.apache.org/downloads.html

2. Get the sparkgis from github:

https://github.com/SBU-BMI/spark-gis

The sparkgis code is in cheuk/spark-gis-prod
The heatmap_rest_api is in cheuk/rest_api

3.modify configuration

For sparkgis code, you need to configure following file :
cheuk/spark-gis-prod/resources/sparkgis_upload.properties

For spark 1.4.1, you need to configure following file:
spark-1.4.1-bin-hadoop2.6/conf/spark-defaults.conf

By adding following library:
spark.driver.extraLibraryPath   /spark-gis-prod/lib
spark.executor.extraLibraryPath   /spark-gis-prod/lib

4.compile and run

Cd into cheuk/spark-gis-prod,
Compile the code by : sh compile.sh

Then run the code by:

/home/cochung/spark-1.4.1-bin-hadoop2.6/bin/spark-submit --class sparkgis.SparkGISMain /home/cochung/spark-gis/cheuk/spark-gis-prod/target/uber-spark-gis-1.0.jar --algos yi-algorithm-v1,yi-algorithm-v11 --caseids TCGA-02-0001-01Z-00-DX1 --metric jaccard --input mongodb --output mongodb --inputdb temp_db --outputdb temp_db --inputcollection temp_col --outputcollection temp_col --result_exe_id cheuk_test2

"/home/cochung/spark-1.4.1-bin
-hadoop2.6/bin/spark-submit " is the path of your spark
"/home/cochung/spark-gis/cheuk/spark-gis-prod/target/uber-spark-gis-1.0.jar" is your sparkgis
jar

For rest_api code.

1. install redis, http://redis.io/, and then run it as a background service.
2. Get the code from github, https://github.com/SBU-BMI/spark-gis/tree/master/cheuk/rest_api
3. you need to configure following file : cheuk/rest_api/config/default.json

Usage of rest api:

curl -X GET http://localhost:8127/api/job_status/144a7580-4d08-11e6-aaf9-5b317fa79b4e

curl -X GET http://localhost:8127/api/heat_map_result/ae997af0-4d08-11e6-aaf9-5b317fa79b4e

curl --form "image=@results.json" --form "algos=yi-algorithm-v1,yi-algorithm-v11" --form
"caseids=TCGA-02-0001-01Z-00-DX1" --form "metric=jaccard" --form
"result_exe_id=cheuk_testabc" http://localhost:8127/api/upload_and_generate_heatmap

curl -X POST --data
"algos=yi-algorithm-v1,yi-algorithm-v11&caseids=TCGA-02-0001-01Z-00-DX1&metric=jaccard&i
nput=mongodb&output=mongodb&inputdb=u24_segmentation&inputcollection=results&outputd
b=u24_segmentation&outputcollection=results&result_exe_id=cheuk_testabc"
http://localhost:8127/api/generate_heatmap