A network database

The task is to create a networked database server composed of multiple nodes operating together.

Data model: key/value store

Implementation language: Any

You should be able to run a 3 node cluster that would execute code similar to the one below, settings and getting data from the cluster.

dbClient = initClient([

"127.0.0.1:8888", "127.0.0.2:8888", "127.0.0.3:8888"

])

dbClient.set("student-1", "Israeli, Israel")

print(dbClient.get("student-1"))

The nodes can keep the data in memory (no persistence needed).

There are two modes:

* Sharded - in which the data is split among the nodes
* Replicated - all the data is replicated among the nodes

You are required to submit:

* Code for the database node.
* Scripts that would run the database nodes (three separate processes, simulating three different machines, communicating over the network).
* Any required configuration to make it work
* Script showing how you can read & write data from the database cluster

The code should handle the scenario of a single machine (out of 3) going down gracefully.

Pay close attention to error handling, the location of the data and how you are handling failure modes.