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Compile and Run

1) Open terminal and navigate to the project folder

2) Compile with the following command

/PA1 $ make

Then we got all the needed class files ("make clean" to clean all the class files)

3) Run Compute Node

There is a file called "params.txt" in the project folder which is used to store the compute node info. This file will be read by the Server program in the next step. Each line stands for one compute node in the system in the pair format like <localhost,9091>.

We need to make sure the info in the param.txt matches the actual running compute nodes to avoid the possible exceptions. For [Time Delay], it is in milliseconds.

Run Compute Node on different terminals:

1) navigate to the project folder

2) /PA1 $ java -cp ".:/usr/local/Thrift/*" ComputeNode [Port] [Load-probability] [Time Delay]

Example:

/PA1 $ java -cp ".:/usr/local/Thrift/*" ComputeNode 9091 0.5 3000

4) Run Server

After setting up the "params.txt" file mentioned in the previous step, we can run Server. For the [Policy], 1 is random policy and 2 is load-balancing policy.

1) navigate to the project folder

2) /PA1 $ java -cp ".:/usr/local/Thrift/*" Server [Port] [Policy]

Example:

/PA1 $ java -cp ".:/usr/local/Thrift/*" Server 9090 1

5) Run Client

After Server and Compute Node are running, we can submit the job.

1) navigate to the project folder

2) /PA1 $ java -cp ".:/usr/local/Thrift/*" Client [ServerIP] [ServerPort] [Input Directory]

Example:

/PA1 $ java -cp ".:/usr/local/Thrift/*" Client localhost 9090 input_dir

Note:

1) We assume input_dir, intermediate_dir and output_dir are already in the same directory with all the executable files.

2) Thrift file is already generated. Do not need to generate them again. (We left thrift files in the folder for grading reason)