**CQSIM -Manual**

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**1. Setting up the Simulator**

* **svn co** [**http://bluesky.cs.iit.edu/svn/Cqsim/Cqsim**](http://bluesky.cs.iit.edu/svn/Cqsim/Cqsim)

After run this command, you will get the whole project in the folder Cqsim on your current working directory.

**2. The Command Line Keys**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Name1 | Name2 | Type | Default | Comment |
| 1 | -j | --job | string | None | job trace file name |
| 2 | -n | --node | string | None | node structure file name |
| 3 | -J | --job\_save | string | [job trace name] | formatted job trace data file name |
| 4 | -N | --node\_save | string | [job trace name]+”\_node” | formatted node structure data file name |
| 5 | -f | -- frac | float | 1 | job density adjust |
| 6 | -s | --start | float | 0 | first job start virtual time |
| 7 | -S | --start\_date | date | None | first job start date |
| 8 | -r | --anchor | int | 0 | first job position in job trace |
| 9 | -R | --read | int | -1 | number of jobs read from the job trace |
| 10 | -p | --pre | string | "CQSIM\_" | previous file name |
| 11 | -o | --output | string | [job trace name] | simulate result file name |
| 12 |  | --debug | string | “debug\_”+[job trace name] | debug file name |
| 13 |  | --ext\_fmt\_j | string | ".csv" | formatted job data extension type |
| 14 |  | --ext\_fmt\_n | string | ".csv" | formatted job data extension type |
| 15 |  | --ext\_fmt\_j\_c | string | ".con" | temp job trace config extension type |
| 16 |  | --ext\_fmt\_n\_c | string | ".con" | temp job trace config extension type |
| 17 |  | --path\_in | string | “InputFiles/” | input file path |
| 18 |  | --path\_out | string | “Reults/” | output result file path |
| 19 |  | --path\_tmp | string | “Temp/” | temp result file path |
| 20 |  | --path\_debug | string | “Debug/” | debug file path |
| 21 |  | --ext\_jr | string | ".rst" | job result log extension type |
| 22 |  | --ext\_si | string | ".ult" | system information log extension type |
| 23 |  | --ext\_ai | string | ".adp" | adapt information log extension type |
| 24 |  | --ext\_d | string | ".log" | debug log extension type |
| 25 | -v | --debug\_lvl | int | 4 | debug mode |
| 26 | -a | --alg | list | None | basic algorithm list |
| 27 | -A | --sign | list | None | sign of the basic algorithm element |
| 28 | -b | --backfill | int | 0 | backfill mode |
| 29 | -B | --bf\_para | list | None | backfill parameter list |
| 30 | -w | --win | int- | 0 | window mode |
| 31 | -W | --win\_para | list | None | window parameter list |
| 32 | -l | --ad\_bf | int | 0 | backfill adapt mode |
| 33 | -L | --ad\_bf\_para | list | None | backfill adapt parameter list |
| 34 | -d | --ad\_win | int | 0 | window adapt mode |
| 35 | -D | --ad\_win\_para | list | None | window adapt parameter list |
| 36 | -g | --ad\_alg | int | 0 | algorithm adapt mode |
| 37 | -G | --ad\_alg\_ para | list | None | algorithm adapt parameter list |
| 38 | -c | --config\_n | string | "config\_n.set" | config file - file name and path |
| 39 | -C | --config\_sys | string | "config\_sys.set" | system config file |
| 40 | -m | --monitor | int | None | monitor interval time |
| 41 | -M | --mon\_para | list | None | monitor parameter list |
| 42 | -u | --uti | list | None | average utilization interval list |
| 43 | -e | --ver | string | “ORG” | version name |

* For the parameters which are marked as “list” in Type, you can use the key multiple times to form a list.

*e.g. if you write the command as* ***–a w –a + -a 2****, the simulator will get the list [‘w’,’+’,’2’]*

**3. The Configuration Files**

* **System Information Configuration file**
* Contains all the parameters except those file name
* Default Path: Cqsim/src/Config/config\_sys.set
* Pass in the simulator thought 39th parameter.
* **Name Configuration file**
* Contains all the file name parameters
* Default Path: Cqsim/src/Config/config\_n.set
* Pass in the simulator thought 38th parameter.
* **Backfill Adapt Configuration File**
* Contains Backfill Adapt Parameters
* Default Path: Cqsim/src/Config/ad\_bf\_para.set
* Pass in the simulator thought 33th parameter.
* **Start Window Adapt Configuration File**
* Contains Start Window Adapt Parameters
* Default Path: Cqsim/src/Config/ ad\_win\_para.set
* Pass in the simulator thought 35th parameter.
* **Basic Algorithm Adapt Configuration File**
* Contains Basic Algorithm Adapt Parameters
* Default Path: Cqsim/src/Config/ ad\_alg\_para.set
* Pass in the simulator thought 37th parameter.

**4. Starting the Simulator**

You can run the simulator with the default setting by the following command:

**cd Cqsim/src/cqsim.py**

**5. Output Files**

* **Debug file**
* Contains debug information
* Default Path: Cqsim/data/Debug/[file name].log
* **Job Result file**
* Contains simulating result
* Default Path: Cqsim/data/Results/[file name].rst
* **System Information file**
* Contains running time system information
* Default Path: Cqsim/data/Results/[file name].uti
* **Adapt Information file**
* Contains adapt information
* Default Path: Cqsim/ data/Results/[file name].adp