PyQBench

Qiskit Backend

(hardware or simulator)

Circuits and requested number of samples

Histogram of bitstrings

User might opt-in for manually sending circuits instead of leaving the task to PyQBench, resulting in a finer control of the execution parameters.

qbench Python library

- Low level API
- Has routines for assembling benchmark circuits and executing them
- Flexible, can execute arbitrary experiment but requires more work from the user

Backend, qubit indices and experiment components

Probabilities of successful discrimination

Calls

qbench CLI

- High level API
- Has commands for submitting the experiment, querying its status, obtaining data and summarizing results
- Can only execute a predefined subset of experiments
- Easily configurable using YAML files

YAML files defining backend and experiment parameters

Intermediate YAML files

Output CSV file with discrimination probabilities