The source code of RELOAD v0.2, a reinforcement learning agent for generating workload based performance test conditions. This version of the tool uses Q-Learning as one of the basic RL methods and algorithms.

**Experiment Set up**

Although, this project is supported to run in a single machine (regardless of the operating system), we recommend carrying it out by setting up two virtual machines in order to prevent environmental noise.

* VM1: Will serve as the application node (System Under the test)
* VM2: Will serve as the load tester (Apache JMeter + RELOAD v0.2)

IMPORTANT: Make sure that the two VMs can ping/communicate with each other!

Regarding Apache JMeter: we are using a distributed (remote) testing.

1. Create a test plan by using the Recorder, [JMeter proxy](https://jmeter.apache.org/usermanual/jmeter_proxy_step_by_step.html).
2. Set up [JMeter Distributed Testing](https://jmeter.apache.org/usermanual/jmeter_distributed_testing_step_by_step.html) environment.

**To run RELOAD v0.2:**

* Install IntelliJ IDEA
* Clone [deeplearning4j repository](https://github.com/deeplearning4j/deeplearning4j-examples) on your machine.
* Add RELOAD v0.2 files to the rl4j-examples folder of the above project.
* Open project to the IntelliJ IDEA, import all the necessary libraries (including Appache JMeter JARs), and make sure to resolve all dependencies.
* Update local URL's that are found in the files of the QLearning approach.
* Launch Appache JMeter.
* Execute ApplyApproach file.