Simulator of Web Infrastructure and Management

External Control

The simulation provides a monitoring and execution interface through a TCP port. Commands are sent to TCP port 4242. The response is a number for probing commands, the “OK” string for effectors, or an error message prefixed by the string “error:”

Probes

Command	**Description**	**Response**
get_dimmer	Gets the dimmer value	Double number between 0 and 1
get_servers	Gets the number of servers	Integer number
get_active_servers	Gets the number of active servers (i.e., those that have completed booting and are processing requests)	Integer number
get_utilization *serverId*	Gets the utilization of the server with *serverId*. Server ids are server1, server2,..., serverN, where N is the current number of servers.	Double number between 0 and 1
get_basic_rt	Gets the average response time (over the last 60 seconds) for basic responses (not including optional content).	Double number (seconds)
get_opt_rt	Gets the average response time (over the last 60 seconds) for responses with optional content.	Double number (seconds)
get_basic_throughput	Gets the throughput (over the last 60 seconds) for basic responses (not including optional content).	Double number (responses/second)
get_opt_throughput	Gets the throughput (over the last 60 seconds) for responses with optional content.	Double number (responses/second)
get_arrival_rate	Gets the average request arrival rate (over the last 60 seconds).	Double number (requests/second)

Effectors

Command	**Description**	**Response**
add_server	Adds a server, which won't become active until it has completed booting according to the bootDelay parameter of the simulation. Adding a server when the system has already the maximum number of servers (parameter maxServers of the simulation) causes the simulation to terminate with a failed assertion.	OK
remove_server	Removes a server. This command can only be invoked if no server is booting (number of active servers == number of servers), and the number of servers > 1. Otherwise the simulation terminates with a failed assertion.	OK
set_dimmer *value*	Sets the dimmer to *value*, a number between 0 and 1.	OK