

----- **Network Simulation** -----

Lab 2 : Implemented simulation

Objective of the Lab: the objective of this second practice lab is to implement a simulation of client/server communication.

Vital components:

- Client
- Server
- Server's Queue
- Communication (Request & Response)

Simulation parameters:

- Number of clients
- Simulation time
- Size of the queue

Simulation events:

- Request message arrival
- Treatment of request message
- Response generation and communication

System's state variables:

- The current number of queued requests
- The state of the server (available or busy)

Simulation scenario

- The clients generate requests randomly throughout the simulation time.
- Upon request arrival:

- If the server is available:
 - The received request is treated by the server and,
 - A response is generated and sent to the client.
 - Extract the next request from the queue (if any) and treat it.
- Otherwise, if the server is busy:
 - The request is queued.
 - If the queue is full, the received request is dropped.

Required work:

Implement using Java or python the simulated client/server communication.

Evaluation Criteria:

The best simulation is the closest one to the reality of the system.