Group 2 - SDN support for Dynamic Service Allocation

Scenario: With reference to Figure 1, consider a client that dynamically requests a service which can be equivalently provided by a set of servers. The number of clients currently served by a server is called *load*. The connectivity among the clients and the servers is provided by a set of SDN-enabled switches. From the client perspective, the service is hosted at VIRTUAL_IP.
Design and realize a system that allows clients to subscribe/unsubscribe to a service. At each subscription, the module will then configure the SDN network to allow the requesting client to communicate with the server having the lowest load.

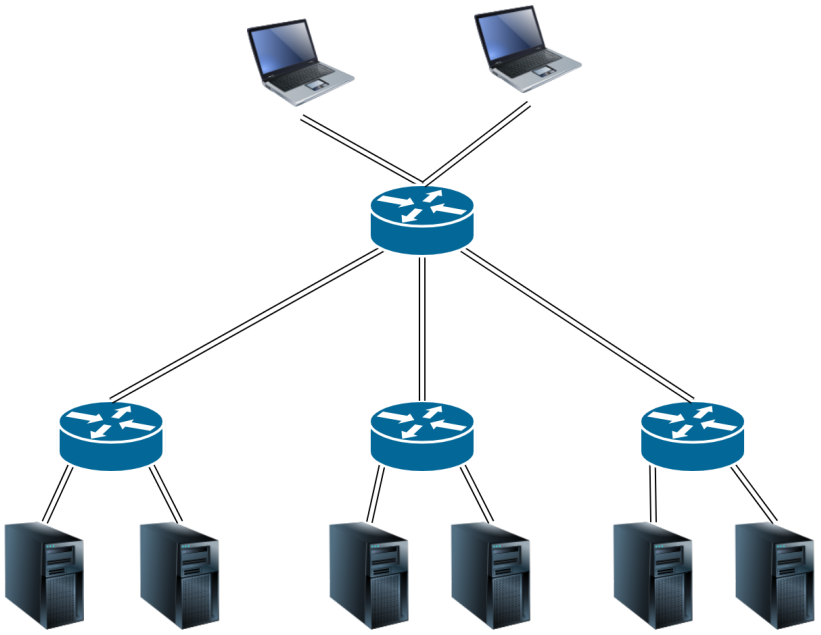

Figure 1 - Dynamic-service scenario

Detailed objectives:

- Implement a Floodlight module that exposes a RESTful interface allowing clients to subscribe/unsubscribe to a service. At each subscription, the module will identify the server having the lowest load, and will install flow rules to allow communication among them.
- Implement two simple client and server applications, exemplifying the behavior described in the scenario.
- Test and demonstrate the overall system using GNS3 and Floodlight. The scenario of figure 1 can be used as an example.