Group 1 - Intent based application

Scenario: Consider a set of clients that can communicate through a redundant network (e.g., based on a spine-leaf topology.) An external application can request to install paths between host pairs, by just specifying the endpoint identifiers, we refer to this as an host-2-host intent. The network has to allow communications only among the specified host pairs. Moreover, the network has to automatically reconfigure in case of link failures.

Design and realize a system that allows users to request and withdraw host-to-host intents, and configures the underlying network accordingly.

Detailed objectives:

1) Implement a Floodlight module that exposes a RESTful interface allowing clients to create/delete host-to-host instents. The module will then dynamically install and update flow rules in the network to allow the communication among specified pairs. Possible path switches must occur transparently to clients.
2) Test the overall system using Mininet and Floodlight, devising proper scenarios to demonstrate the above functionalities.