ABSTRACT

Computer network and data communication course is a compulsory course for college student Diploma of Telecommunication Engineering in Telkom Applied Science School, Telkom University. The both courses have 3 credits with twice meeting for a week. The first meeting is about theoretical lesson in the class taught by the lecturer and the second meeting is the practicum lesson accompanied by each practicum assistant in network laboratory.

Therefore, a website application is made to simulate a network based on a web where the user can configure the device from intranet of Telkom Applied Science School network laboratory in a real time for practicum purpose or even a research. Proxmox VE as the virtualization software can virtualize between mikrotik router and some of the other devices, so that this application is called "Mikrotik Online Lab".

The application can utilize the practicum devices, because in order to virtualize 26 PC and 25 mikrotik routers need a PC with the specifications : 6 GB RAM, Prosessor Intel® Core i3 to do 4 modules with 3 users in each module. The user with laptop (specifications : Prosessore Intel Pentium Dual-Core, 1.5 GB RAM) is already able to do a practicum well and can utilize the practicum time about 15 until 40 minutes.

Keywords : mikrotik, virtualization, online laboratory, proxmox, router