**Hotel system network design implementation**

**(case study)**

The hotel has three floors On the first floor, there are three departments (reception, store, and logistics), on the second floor there are three departments (finance, HR, and marketing), and on the third floor host and admin

* therefore, the following are part of the consideration during the design implementation.
* there should be three routers connecting each floor (all placed in the server room in its department)
* all routers should be connected using DEC cable.
* the routers between the routers should be 10.10.10.0/3010.10.10.4/3010.10.10.8/30
* each floor is expected to have one switch (placed on the respective floor).
* each floor is expected to have a Wi-Fi network connected to laptops and phones.
* each department is expected to have a printer.
* each department is expected to be in a different VLAN with the following details

**1st Floor;**

* Reception VLAN 80, Network of 192.168.8.0/24
* Store VLAN 70, Network of 192.168.7.0/24
* Logistic VLAN 60, Network of 192.168.6.0/24

**2nd Floor;**

* Finance VLAN 50, Network of 192.168.5.0/24
* HR VLAN 40, Network of 192.168.4.0/24
* Sales VLAN 30, Network of 192.168.3.0/24

**3rd Floor**

* Admin VLAN 20, Network of 192.168.2.0/24
* IT VLAN 10, Network of 192.168.1.0/24

1. use OSPE as the routing Protocol to advertise routes.
2. All devices in the network are expected to obtain IP addresses dynamically with their respective router configured as the DHCP server.
3. All devices in the network are expected to communicate with each other.