FIFA Group Champions(La'eeb)

In **FIFA World Cup 2022**, Qatar and FIFA have unveiled La'eeb as the Official Mascot for this year's FIFA World Cup 2022™. There are a total eight groups and, in each group, there are four different country teams. Given below are the names of the teams present in each group along with the visitor counts who came to Qatar to enjoy the **FIFA World Cup 2022** physically.

- **Group A:** Qatar(0), Ecuador(50), Senegal(20), Netherlands(20)
- **Group B:** England(20), Iran(20), USA(50), Wales(10)
- **Group C:** Argentina(100), Saudi Arabia(50), Mexico(50), Poland(20)
- **Group D:** France(100), Australia(10), Denmark(10), Tunisia(10)
- **Group E:** Spain(100), Costa Rica(10), Germany(100), Japan(10)
- **Group F:** Belgium(20), Canada(50), Morocco(20), Croatia(50)
- **Group G:** Brazil(100), Serbia(20), Switzerland(50), Cameroon(10)
- **Group H:** Portugal(100), Ghana(10), Uruguay(50), South Korea(20)

The organizer country Qatar decides to make eight group specific network zones to give special internet services like-Email, FIFA_LIVE_UPDATE_SITE browsing to the visitors for free. While establishing the network infrastructure, a set of specific rules were proposed by the Qatar organizer committee to the network maintenance team:

1. Consider the eight group specific network zones as a set of LANs connected to the Routers and try to minimize the number of Routers.
2. Most importantly, here the visitor counts don't include the default router;
3. As Qatar is a part of Group A, Group A network zone will act as the central zone for other groups on the network topology and everyone will be able to communicate with Group A via Email and Vice-Versa. So, an **Email** server will have to be set up and it will be located in the Group A network zone;
4. The Router that will have Group A network zone as directly connected also knows about all other networks statically;
5. From Group C to Group G, there will be a floating route, whereas the primary route will have an AD value of 22;
6. The Group B to Group D network zones will assign IP addresses to their visitor's PC randomly from the network specified pools, whereas the dedicated **DHCP** server will be located in the Group A network zone;
7. Every network zone will also require one printer to print large number of visitor satisfaction reports time-to-time every day;
8. Group A will also have the **Web** server and the **DNS** server. If any visitor types the URL www.fifaliveupdate.com, they will be able to see the live score of any ongoing match. (For this project, just make a static html page that shows a header, team names, their goal status and remaining time to play.);
9. Choose appropriate original network address and create subnets to assign to each of the network zones in such a way that satisfies the visitor counts and all other static end devices like-servers and printers;

10. Showing 2 end devices (excluding printer) per network is good enough to represent the whole population in any of the network zones;
11. You need to be able to ping each network zone from another after all the configurations are complete. You have to remember the default route cannot be used while exchanging packets. Data will be delivered using standard static routes or dynamic routes.

Deliverables

1) The network mentioned above should be implemented in Cisco Packet Tracer, with necessary devices and full configuration.
2) After completion you should be able to test the conditions imposed.
3) You will have to submit the followings:
      I. Network topology diagram with proper labels
      II. The configuration commands of all the routers that you have implemented.
      III. VLSM tree
      IV. IP address table