



A General IT Infrastructure for IT Startups/Offshores

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Description.

- As we know many tech companies around the globe are shifting their development teams and workspaces to developing countries like India, Pakistan and Bangladesh to save the rent and working cost. In this project we'll design and implement a Computer Network for a hypothetical offshore/startup Software Company.



Requirements.

As we know that almost every software company requires the following 5 teams.

- Development Team for developing the software.
- Design Team for design purposes.
- Quality Assurance Team for consistent and market competitive softwares.
- HR Team for managing the Human Resource.
- Finance Team for managing the Incomes and Taxes.



Requirements.

Let's assume that the above 5 departments require the following.

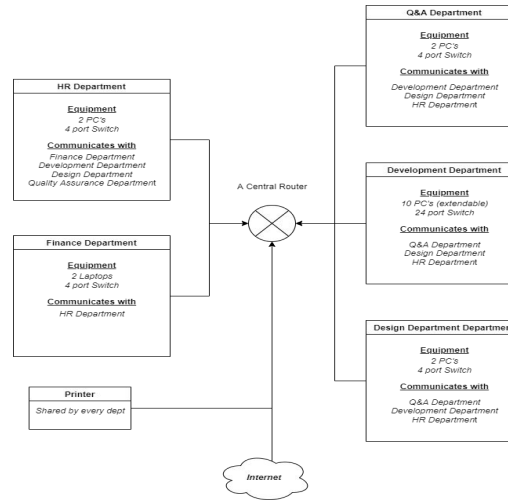
- Development team consists of 10 members each requiring a PC and the development team is divided into 2 groups to work on different projects. This team can increase in future.
- The Design Team has 2 members who individually work with any development team.
- The Quality Assurance Team has 2 members who can interact with any of the development and design team.



Requirements.

- The HR Team has 2 members who use 2PCs and a telephone to communicate with all the teams to resolve their issues.
- Finance team only communicates with the HR team and has only 2 members who use laptops.
- Every department is connected with the Internet.
- Every department is using a shared printer.

High Level Illustration.





IP Addresses(Static).

Development Department				
PC	IP Address	Subnet Mask	Gateway	DNS
Dev-2 PC-1	192.168.1.1	255.255.255.0	192.168.1.11	192.168.4.4
Dev-2 PC-2	192.168.1.2	255.255.255.0	192.168.1.11	192.168.4.4
Dev-2 PC-3	192.168.1.3	255.255.255.0	192.168.1.11	192.168.4.4
Dev-2 PC-4	192.168.1.4	255.255.255.0	192.168.1.11	192.168.4.4
Dev-2 PC-5	192.168.1.5	255.255.255.0	192.168.1.11	192.168.4.4
Dev-1 PC-6	192.168.1.6	255.255.255.0	192.168.1.11	192.168.4.4
Dev-1 PC-7	192.168.1.7	255.255.255.0	192.168.1.11	192.168.4.4
Dev-1 PC-8	192.168.1.8	255.255.255.0	192.168.1.11	192.168.4.4
Dev-1 PC-9	192.168.1.9	255.255.255.0	192.168.1.11	192.168.4.4
Dev-1 PC-10	192.168.1.10	255.255.255.0	192.168.1.11	192.168.4.4



IP Addresses(Static).

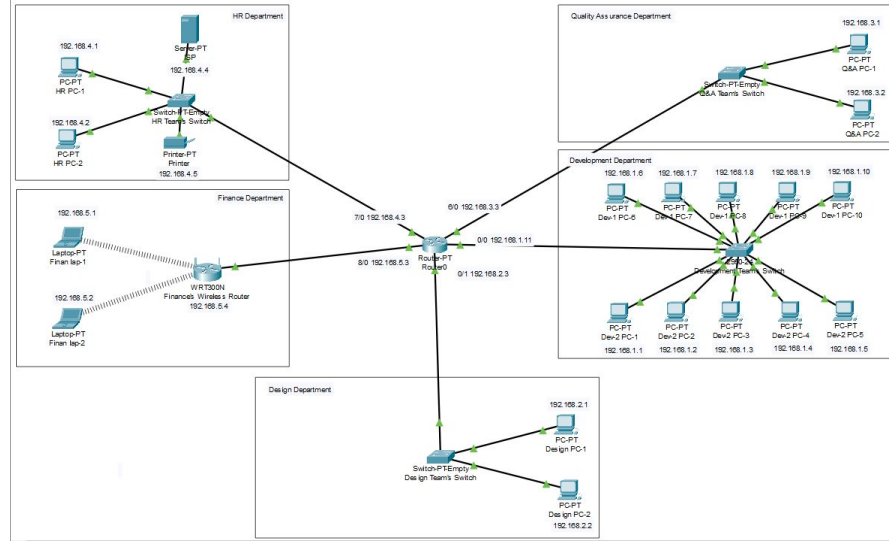
Design Department				
PC	IP Address	Subnet Mask	Gateway	DNS
Des PC-1	192.168.2.1	255.255.255.0	192.168.2.3	192.168.4.4
Des PC-2	192.168.2.2	255.255.255.0	192.168.2.3	192.168.4.4
Quality Assurance Department				
PC	IP Address	Subnet Mask	Gateway	DNS
Q&A PC-1	192.168.3.1	255.255.255.0	192.168.3.3	192.168.4.4
Q&A PC-2	192.168.3.2	255.255.255.0	192.168.3.3	192.168.4.4



IP Addresses(Static).

HR Department				
PC	IP Address	Subnet Mask	Gateway	DNS
HR PC-1	192.168.4.1	255.255.255.0	192.168.4.3	192.168.4.4
HR PC-2	192.168.4.2	255.255.255.0	192.168.4.3	192.168.4.4
Finance Department				
PC	IP Address	Subnet Mask	Gateway	DNS
Finan PC-1	192.168.5.1	255.255.255.0	192.168.5.3	192.168.4.4
Finan PC-2	192.168.5.2	255.255.255.0	192.168.5.3	192.168.4.4

Implementation(Cisco Packet Tracer).





Estimated Cost.

- PCs Cost. (i7 9th-Gen, 16GB Ram, 1 TB HDD and 256GB SSD, 500w PSU).
 - $200k * 16 = 3.2$ million pkr.
- Switch Cost.
 - $1 * 24$ port switch (Linksys EF4124 24-Port Switch) = 6.5k
 - $3 * 5$ port switches (D-LINK DES-1005A) = $3 * 1450 = 4.5k$
 - Total Switch Cost = 11k
- 2 Finance Laptops (Hp i5 6th-Gen 8GB Ram, 256GB SSD).
 - $2 * 55k = 110k$



Estimated Cost.

- LED Cost. (Dell E2420H 24").
 - $35k * 16 = 560k$.
- Router Cost.
 - 1x 5 port Router (Mikrotik hEX RB750Gr3) = 13k
 - 1x wireless Router (Tp-Link TL-WR840N Ver 3.0) = 2.5k
- Straight Cable Cost (200-250 sq-ft per person).
 - $2000m * 40 = 80k$
- **Total Network Price ~ 4 million pkr.**



Questions

