Experiment No: 5	
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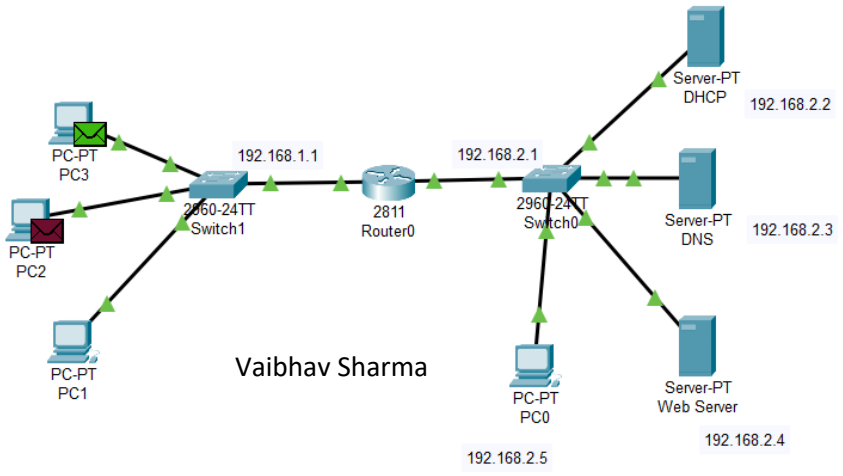
Title	Build a Basic Network with Application Layer Protocols for Enhanced Network Services.
Theory (short)	A basic network with application layer protocols enhances network services by enabling communication and data exchange between applications across the network. The application layer, the topmost layer in the OSI model, uses protocols like HTTP, FTP, SMTP, and DNS to facilitate services such as web browsing, file transfer, email, and domain name resolution. These protocols ensure reliable data transfer and user interaction by providing end-to-end communication between devices, while managing data formatting, session management, and error handling. This layer's integration with lower network layers provides a seamless connection between users and services, enhancing overall network efficiency.

Procedure	Place Devices on the Workspace: From the End Devices tab, drag and drop 4 PCs (PC0, PC1, PC2, PC3) onto the workspace. From the Network Devices section, choose 2 switches (2960-24TT, 2960-24). Add a Router (2811) from the Routers section. Add 3 servers (DHCP Server, DNS Server, Web Server). Connect the Devices: Use copper straight-through cables to connect: PC0, PC1, PC2, and PC3 to the respective switches. Switch1 to Router0 (using FastEthernet interfaces). Router0 to Switch0. Servers (DHCP, DNS, Web) to Switch0. Configure IP Addresses: Assign static IP addresses for the devices connected to Switch0:

	DHCP Server: 192.168.2.2. DNS Server: 192.168.2.3. Web Server: 192.168.2.4. PC0: 192.168.2.5. For the devices connected to Switch1, assign the IP range 192.168.1.x. Router Configuration: Assign IP addresses to Router interfaces: Interface connected to Switch1: 192.168.1.1/24. Interface connected to Switch0: 192.168.2.1/24.
Output Screenshots	

	
Observation	
Self-assessment Q&A	
Conclusion	This experiment built a basic network using application layer protocols (HTTP, DNS, DHCP) to enable services like IP address allocation, domain name resolution, and web hosting. Proper configuration ensured seamless communication between devices across subnets, enhancing overall network efficiency.