Summary of Cisco Packet Tracer Demonstration

This demonstration illustrates the creation, configuration, and testing of a Local Area Network (LAN). The network is built using a star topology, with two main segments connected.

1. Network Topology & Devices

The network is composed of two main segments, each centered around a switch. These segments are linked together.

- **Segment 1 (Left):**
  - **Switch0** is connected to:
    - Router0
    - PC0
    - PC1
    - PC2
    - Printer0
- **Segment 2 (Right):**
  - **Switch1** is connected to:
    - Server0
    - Printer1
    - PC3
    - PC4
    - PC5

The two segments are connected via a link between Switch0 and Switch1, creating a single, larger network.

2. Configuration Steps Shown

The screenshots document several key configuration steps:

- **Router Configuration (Router0):**
  - The Command Line Interface (CLI) was used to configure the GigabitEthernet0/0 interface.
  - It was assigned the IP address **192.168.1.1** and a subnet mask of 255.255.255.0.
  - This router serves as the **Default Gateway** for the network.
- **Static IP Assignment:**
  - Static IP addresses were manually set for the server and one of the printers:
    - **Server0:** 192.168.1.10
    - **Printer1:** 192.168.1.51
- **Dynamic IP Assignment (DHCP):**
  - **PC0** is shown receiving its IP address automatically via DHCP.
  - It was assigned the IP address **192.168.1.2** and correctly identified the router (192.168.1.1) as its default gateway.

3. Verification & Testing

Connectivity across the network was successfully tested using the ping command from PC0:

- **Ping Router (Gateway):** A successful ping to 192.168.1.1 confirmed PC0 can reach its default gateway.
- **Ping Server:** A successful ping to 192.168.1.10 confirmed connectivity to Server0.
- **Ping Printer:** A successful ping to 192.168.1.51 confirmed connectivity to Printer1.

The **Simulation** mode (shown by the pink envelopes) was also used to visually trace the path of data packets as they moved between devices.

In summary, this demo successfully builds a functional LAN, properly configures devices using both static and dynamic (DHCP) addressing, and proves that all major components can communicate with each other.