**Project Commands**

## PC Configuration

It’s essential to understand the key parameters and concepts involved in configuring a PC:

**IP Address:** An IP address is a unique identifier for a device on a network. It allows devices to send and receive data within a network. IP addresses are typically assigned dynamically by a DHCP server or configured statically.

**Subnet Mask:** The subnet mask determines which portion of an IP address is the network identifier and which part is the host identifier. It’s used to divide an IP address into network and host portions.

**Default Gateway:** The default gateway is the IP address of the router or layer 3 switch that connects the local network to other networks or the internet. It allows devices to communicate beyond their local subnet.

### Steps to configure PC in Packet Tracer:-

### Step1: Access the PC’s Desktop

**Select the PC:** In Packet Tracer, click on the PC you want to configure to select it. You should see the PC’s properties and options in the lower-left corner of the window.

**Access Desktop Tab:** Click on the “Desktop” tab in the PC’s properties to access its desktop view.

### Step 2: Configure IP Address

**Access IP Configuration:** look for the option to configure the PC’s IP address

**Static (Manual) Configuration:** This option allows you to set a specific IP address, subnet mask, default gateway, and DNS servers manually.

**Enter IP Address:** Enter the desired IP address for the PC. Ensure that the IP address is within the same subnet as the rest of the devices in your network.

**Enter Default Gateway:** Specify the default gateway, which is the IP address of the router or layer 3 switch that connects the PC to other networks or the internet.

**Save Configuration:** After entering the IP address, subnet mask, default gateway, and DNS server settings, click “OK” or “Save” to save the configuration.

### Step 3: Verify Configuration

**Verify IP Configuration:** To ensure that the IP address configuration is correct, you can open a command prompt on the PC and use the **ipconfig** command to view the PC’s IP address, subnet mask, default gateway, and DNS server settings.

**Ping Test:** You can perform a ping test to verify that the PC can communicate with other devices on the network. Use the **ping** command followed by the IP address of another device (e.g., a router or another PC).

If you receive successful ping responses, it indicates that the PC is able to communicate on the network.

## Additional Considerations for Configuring a PC in Packet Tracer

Here are some additional considerations when configuring a PC in Packet Tracer:

**Subnet Design:** Ensure that the IP address you assign to the PC is part of the correct subnet design for your network. Proper sub-netting is crucial for efficient IP address allocation.

**Default Gateway:** Devices on the same subnet as the PC should use the PC’s IP address as their default gateway if the PC is acting as a router or gateway.

**Security:** Implement firewall rules and security policies on the PC as needed to control inbound and outbound traffic. Ensure that your PC’s security settings are in line with your network’s security policies.

**DNS Resolution:** Proper DNS server configuration is essential for resolving domain names to IP addresses. Ensure that DNS servers are reachable and correctly configured.