# Cisco NetAcademy CCNA Introduction to Networking Q&A

**Learning modules 8.1.1. – 8.6.2 and supporting resource documents**

**BESIDES ANSWERING THESE QUESTIONS YOU SHOULD ALSO BE DEVELOPING YOUR CLI REFERENCE if anything new popped up.**

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| **Questions** | **Answer** |
| 1. What does the network layer allow to happen? |  |
| 1. What protocols are included in this layer? |  |
| 1. Outline the basic operations that occur in end-to-end communication. |  |
| 1. The network layer specifies the \_\_\_\_\_ structure. Does it care what data is cared in the packet? |  |
| IP encapsulates the \_\_\_ layer \_\_\_\_. |  |
| 1. What devices examine the IP Header. |  |
| 1. Does the IP address or the data change as it goes through intermediary devices? |  |
| 1. List characteristics of IP as well as what they mean or do for the communication process. |  |
| 1. If your media is unreliable, what does IP do to recover? Or does another layer have to do this? |  |
| 1. What does IP consider when preparing for a type of media communication? |  |
| 1. List the fields and purpose within the IPv4 header. |  |
| 1. Why will a router sometimes fragment a packet? |  |
| 1. List issues with IPv4 |  |
| 1. What improvements does IPv6 provide? |  |
| 1. Outline the fields in an IPv6 header and their uses. |  |
| 1. What is a EH header and what can its use be? |  |
| 1. Does the host device create its own routing table? |  |
| 1. What is the IP (both IPv4 and IPv6)address of a local loopback? |  |
| 1. What is a local host? A remote host? How is that determined? |  |
| 1. Can a local host reach other local hosts without the use of other devices to relay other than the switch which connects them? |  |
| 1. What is routing? |  |
| 1. What are features of a default gateway? |  |
| 1. How does a host know its own default gateway? |  |
| 1. How does the pc get a default gateway route in its own routing table? |  |
| 1. What is the purpose of a default route? |  |
| 1. How can you look at your own PCs routing table? What did you find? Add a snapshot to the bottom of this document. |  |
| 1. What are the 3 sections of a host routing table? |  |
| 1. Once your default router gets the packet, what does it do with it? |  |
| 1. What is the “longest” matching route entry referred to? |  |
| 1. Explain the types of entries in a router’s route table. |  |
| 1. What are the two ways a routing table is built? |  |
| 1. What is the configuration of a static route? What is a drawback of a static route? |  |
| 1. Outline static routing characteristics. |  |
| 1. What is the key difference and benefit of dynamic routes? |  |
| 1. What does dynamic routing automatically do? |  |
| 1. Is it common to see both types in a routing table? |  |
| 1. How do you display a routers routing table? |  |
| 1. What do the route source codes represent and how are those routes created? |  |
| 1. What is unique about a default route? |  |
| Read the article: [Networking] Router vs Switch vs Hub |  |
| What are the cons of using hubs instead of switches? |  |
| Where can a hub be useful? |  |
| Read the article: Europe just ran out of new IPv4 addresses |  |
| How many IPv4 addresses could be returned to the pool each year and how? Is it enough? |  |
| Explore the site: Cisco - IP Routing |  |
| Under Technology Q&A: What types of routing protocols are outlines? |  |