

**Critical Thinking Assignment 1: Labs Lesson 1 and 2**

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IT315-2: Introduction to Networks

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December 15, 2024

## Critical Thinking Assignment 1: Labs Lesson 1 and 2

This documentation is part of the Critical Thinking 1 Assignment from ITS315: Introduction to Networks at Colorado State University Global.

### The Assignment Direction:

#### Module #1: uCertify Lab Simulations

For this assignment, you will complete multiple lab simulations. Activities include identifying network components, network topologies, OSI layers, and TCP/IP protocol layers. You will take a screenshot upon completion of each lab and include the screenshots in the submitted assignment.

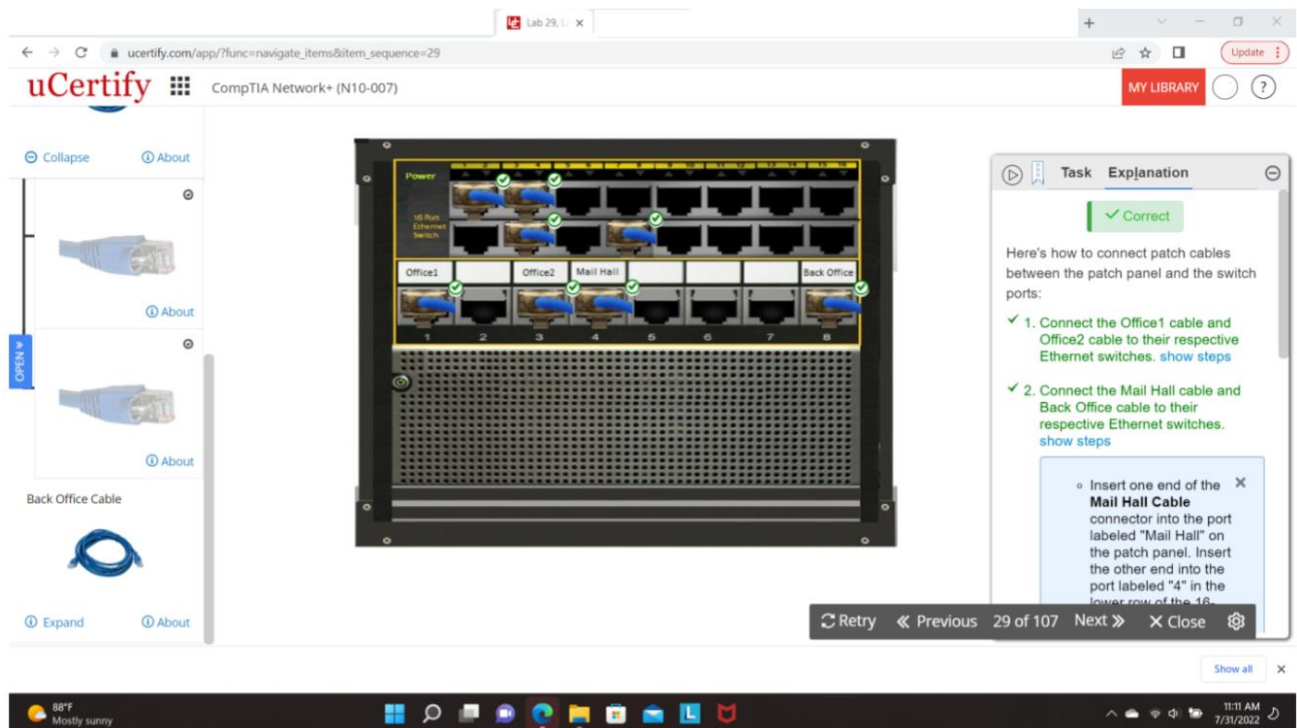
Access uCertify and login, go to Labs, and complete the tasks in the following lab simulations:

- 1.1.1 Identifying network components
- 1.2.1 Identifying network categories
- 1.3.2 Identifying network topologies
- 2.1.1 Identifying OSI layers
- 2.1.3 Identifying TCP/IP protocol layers

After completing the task, click Submit >> Evaluate >> Record my answer to record your answer. Take a screenshot of each of the labs and paste the screenshot into a Word document. The document should have a title page that includes your name, date, school name, section, course name, and instructor name.

Submit the assignment in Canvas.

Please ensure your screenshot includes your name, date, and timestamp as shown in the image below.



## Screenshots

**Figure 1**  
1.1.1 Identifying network components

Correct Answer Compare Your Answer

Network Component	Description
1. Router	B. A layer 3 device that forwards data packets along networks
2. Hub	C. A layer 1 device that connects segments of a LAN and contains multiple ports
3. Media	E. A copper cabling or a fiber optic cabling that interconnects devices
4. Server	D. A program, or machine, that waits for incoming requests
5. Switch	A. A layer 2 device that filters and forwards packets between LAN segments

Activity Explanation

✓ Correct

Types of network components are described below:

- **Hub:** A layer 1 device that connects segments of a LAN and contains multiple ports
- **Switch:** A layer 2 device that filters and forwards packets between LAN segments
- **Router:** A layer 3 device that forwards data packets along networks
- **Server:** A program, or machine, that waits for incoming requests
- **Media:** A copper cabling or a fiber optic cabling that interconnects devices

Lesson

Computer Network Fundamentals

Defining a Network

RESET RETRY PREVIOUS 1 of 107 NEXT SETTINGS CLOSE

**Figure 2**  
1.2.1 Identifying network categories

Correct Answer Compare Your Answer

Network Category	Description
1. LAN	A. Interconnects network components within a local area
2. CAN	D. Interconnection of local-area networks within a limited geographical space
3. PAN	E. A network whose scale is very small, like a connection between a PC and a digital camera via USB
4. MAN	C. Interconnects locations scattered throughout a metropolitan area
5. WAN	B. Interconnects network components that are geographically separated

Activity Explanation

✓ Correct

Types of network categories are described below:

- **WAN (Wide Area Network):** Interconnects network components that are geographically separated
- **MAN (Metropolitan Area Network):** Interconnects locations scattered throughout a metropolitan area
- **LAN (Local Area Network):** Interconnects network components within a local area
- **PAN (Personal Area Network):** A network whose scale is very small, like a connection between a PC and a digital camera via USB
- **CAN (Campus Area Network):** Interconnection of local-area networks within a limited geographical space

Lesson

Computer Network Fundamentals

Networks Defined by Geography

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**Figure 3**  
**1.3.2 Identifying network topologies**

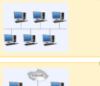
Correct Answer Compare Your Answer


**Topology**


1. Ring
2. Bus
3. Mesh
4. Star

**Image**

A.  ✓

B.  ✓

C.  ✓


D.  ✓


**Activity Explanation**


✓ Correct


Network topology refers to layout of a network and how different nodes in a network are connected to each other and how they communicate. Here are the network topologies:

- ✓ Star Topology
- ✓ Mesh Topology
- ✓ Bus Topology
- ✓ Ring Topology

 **Mesh Topology**

 **Star Topology**

 **Bus Topology**

 **Ring Topology**

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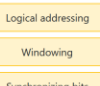
**Figure 4**  
**2.1.1 Identifying OSI layers**

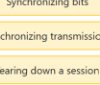
Correct Answer Compare Your Answer


**Layer**


1. Physical
2. Session
3. Transport
4. Application
5. Network
6. Data Link
7. Presentation


**Feature**


A.  ✓

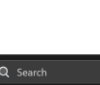
B.  ✓

C.  ✓

D.  ✓

E.  ✓

F.  ✓

G.  ✓

**Activity Explanation**

✓ Correct

Here are the features of the OSI model layers:

- ✓ **Physical Layer:**
  - ✓ Synchronizing bits
  - ✓ How bits are represented on the medium
  - ✓ Wiring standards for connectors and jacks
  - ✓ Physical topology
  - ✓ Bandwidth usage
  - ✓ Multiplexing strategy
- ✓ **Data Link Layer:**
  - ✓ Synchronizing transmissions
  - ✓ Physical addressing
  - ✓ Logical topology
  - ✓ Method of transmitting on the media
  - ✓ Connection services
- ✓ **Network Layer:**
  - ✓ Logical addressing
  - ✓ Switching
  - ✓ Route discovery and selection
  - ✓ Connection services
  - ✓ Bandwidth usage
  - ✓ Multiplexing strategy

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**Figure 5**  
 2.1.3 Identifying TCP/IP protocol layers

The screenshot displays a quiz interface for CSU Global. The browser address bar shows the URL: `seu-csuglobal.ucertify.com/app/?func=navigate_items&item_sequence=10`. The page header includes the CSU Global logo, course information (24WB-ITS315-2, COURSE - CompTIA Network+ (N10-007)), and navigation links like 'MY LIBRARY', 'AR', and 'uCertify'.

The quiz interface has two tabs: 'Correct Answer' (selected) and 'Your Answer'. The main content area shows a diagram titled 'TCP/IP Layers' with four layers in a stack, each with a green checkmark indicating a correct answer:

- Application Layer (orange box)
- Transport Layer (green box)
- Internet Layer (yellow box)
- Network Access Layer (blue box)

To the right of the diagram are four input fields for the layers: 'Transport Layer', 'Internet Layer', 'Network Access Layer', and 'Application Layer'. A vertical 'ITEM LIST' button is on the left.

The right sidebar contains an 'Explanation' panel. It shows a 'Correct' status and a list of four points describing the layers:

- ✓ 1. **Application layer:** Provides access to network resources
- ✓ 2. **Transport layer:** Responsible for preparing data to be transported across the network
- ✓ 3. **Internet layer:** Responsible for logical addressing (such as IP Addresses) and routing
- ✓ 4. **Network Access layer:** Translates logical network address into physical machine address

Below the text is a diagram of the TCP/IP Protocol Layers, showing the same four-layer stack: Application Layer (orange), Transport Layer (green), Internet Layer (yellow), and Network Access Layer (blue). The caption below the diagram reads: 'Figure: TCP/IP Protocol Layers'.

At the bottom of the interface, there is a 'Lesson' button and a navigation bar with 'RESET', 'RETRY', 'PREVIOUS', '10 of 107', 'NEXT', 'SETTINGS', and 'CLOSE' buttons. The system clock at the bottom right shows '2:10 PM 12/13/2024'.

Figures 1 through 5 show that all the lab questions were answered correctly.