

Network Fundamentals

Welcome!

Welcome to **Network Fundamentals**! This beginner-level course requires no prior knowledge of networking or cybersecurity.

Key Terms

Below are key terms essential for this course. Most definitions are from the **NIST Computer Security Resource Center**.

- **Bit** - A binary digit (0 or 1), the atomic unit of computing.
- **Byte** - A group of 8 bits treated as a single entity.
- **Software** - Computer programs and data that can be dynamically modified.
- **Network** - A system of interconnected components (e.g., routers, hubs, cabling).
- **Defense-in-Depth** - A security strategy integrating people, technology, and operations across multiple layers.
- **Authentication** - Verifying a user's identity.
- **Authorization** - Validating an identity and its access permissions.
- **Identification** - Asserting and confirming an identity.
- **Confidentiality** - Restricting information access to authorized users.
- **Integrity** - Protecting information from modification or destruction.
- **Availability** - Ensuring reliable access to information.
- **Non-Repudiation** - Preventing denial of an action (e.g., message sending verification).
- **Vulnerability** - A weakness that could allow unauthorized actions.
- **Threat** - A source of harm that exploits vulnerabilities.
- **Risk** - The possibility of a threat exploiting a vulnerability.
- **Threat Actor** - An individual or group that exploits vulnerabilities.

This list will expand as you progress through the course!