# CYBERSECURITY DAILY DAIRY

**Day 6: Network Security, Hierarchy & Subnetting Basics (June 24, 2025)**

**Topics Covered:**

- Cybersecurity hierarchy and layers.
- Network security concepts (AAA, IAM).
- Network architecture (Access, Distribution, Core Layers).
- Role of a Network Administrator.
- Firewall concepts and packet filtering.
- Access rules in firewalls.
- Subnetting fundamentals.
- IP addressing, private IPs, subnet mask, broadcast address.

**What I Did:**

I studied cybersecurity hierarchy and network security basics like AAA, IAM, and firewalls.

**Hierarchy in Cybersecurity:**

- **Application Layer:** Penetration Testing, Vulnerability Assessment, Threat Handling.
- **Network Security Layer:** Network Design, Firewalls, AAA, IAM.

**Network Design Layers:**

1. **Access Layer:** Connects user devices.
2. **Distribution Layer:** Enforces policies, forwards data.
3. **Core Layer:** High-speed network backbone.

**Key Roles:**

- **Network Administrator:** Sets up, maintains, and secures network infrastructure (switches, routers, firewalls, subnets, monitoring).

**Firewall Concepts:**

- **Packet Filtering Firewall:** Filters traffic by IP, port, protocol.
- **Access Rule Configuration:** Rules define allowed/denied traffic.

**Subnetting Concepts:**

- **IP Address:** Unique device identifier (e.g., 192.168.1.1).
- **Private IP Addressing:** IPs for internal networks (e.g., 10.x.x.x).
- **Broadcast Address:** Communicates with all devices in a subnet (e.g., 192.168.1.255).
- **Subnet Mask:** Splits IP into network/host parts (e.g., 255.255.255.0).

**Key Learnings:**

- Cybersecurity has many layers, each needing specialized knowledge.

- AAA and IAM secure access.
- Good network design improves performance and security.
- Subnetting helps with IP allocation and traffic management.