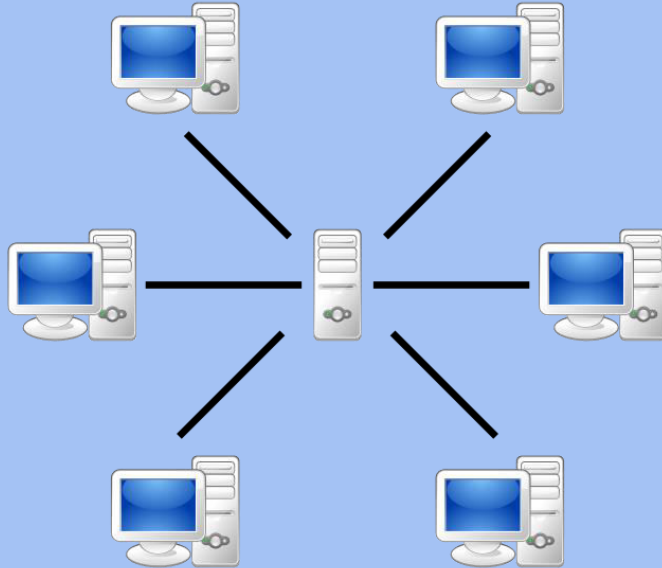


Client-Server Network Architecture

Elementrix Classes

Client-Server Network Architecture

A network based on the client–server model, where individual clients request services and resources from centralized servers.



- ❑ The client-server model is a fundamental concept in computer networking where specialized client and server devices interact to provide services. Servers, central computers continuously available to respond to client requests, host network services like file sharing and printing. Clients, typically desktop computers, access these services after authentication. Centralization enhances security and ease of administration but introduces a single point of failure. While requiring trained staff and additional hardware, this model facilitates efficient network interconnection, enabling common tasks like online banking transactions through distributed program interactions.
- ❑ **Example:** Streaming services like Netflix, where a client application on a user's device communicates with a server to request and stream video content.

Advantages of Client-Server Network

- **Centralized Management:** Easier to manage and administer due to centralized control and oversight.
- **Enhanced Security:** Centralized authentication and access control measures improve security.
- **Scalability:** Can accommodate large numbers of clients and scale up resources as needed.
- **High Performance:** Servers are designed to handle multiple client requests simultaneously, ensuring efficient resource utilization.
- **Centralized Backup and Maintenance:** Simplifies data backup and maintenance tasks as resources are centralized on servers.

Disadvantages of Client-Server Network

- **Single Point of Failure:** Dependence on a central server introduces a risk of network failure if the server goes down.
- **Cost:** Requires investment in specialized hardware, software, and skilled personnel for server setup and maintenance.
- **Complexity:** More complex to set up and configure compared to peer-to-peer networks.
- **Potential Bottleneck:** Network performance may suffer if the server becomes overwhelmed with requests.
- **Dependency on Network Infrastructure:** Relies on network infrastructure for communication between clients and servers, making it vulnerable to network issues.

पढ़िए और पढ़ाइये

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