Introduction to Proxy

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What is Proxy?

A ***proxy*** may refer to a person who is authorized to act for another or it may designate the function or authority of serving in another's stead.

Proxy has recently taken on meanings in computing, where it is found in such phrases as *proxy server*, a computer system that facilitates the exchange of data between users on a network.

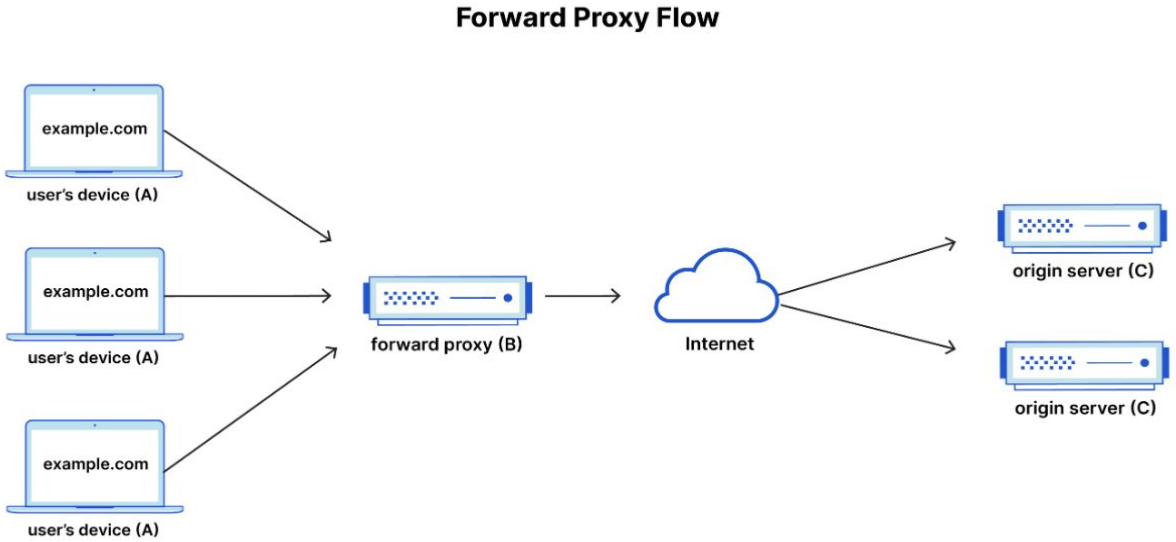
Types and Functions

- **Forward Proxy (Proxy Server) :** Often called a proxy, proxy server, or web proxy, is a server that sits in front of a group of client machines. When those computers make requests to sites and services on the Internet, the proxy server intercepts those requests and then communicates with web servers on behalf of those clients, like a *middleman*

- **Reverse Proxy :** A reverse proxy is a server that sits in front of web servers and forwards client (e.g. web browser) requests to those web servers. Reverse proxies are typically implemented to help increase security, performance, and reliability.

Forward Proxy

- **Forward Proxy (Proxy Servers) :** In a standard Internet communication, computer A would reach out directly to computer C, with the client sending requests to the origin server and the origin server responding to the client. When a forward proxy is in place, A will instead send requests to B, which will then forward the request to C. C will then send a response to B, which will forward the response back to A.



Forward Proxy (Proxy Server)

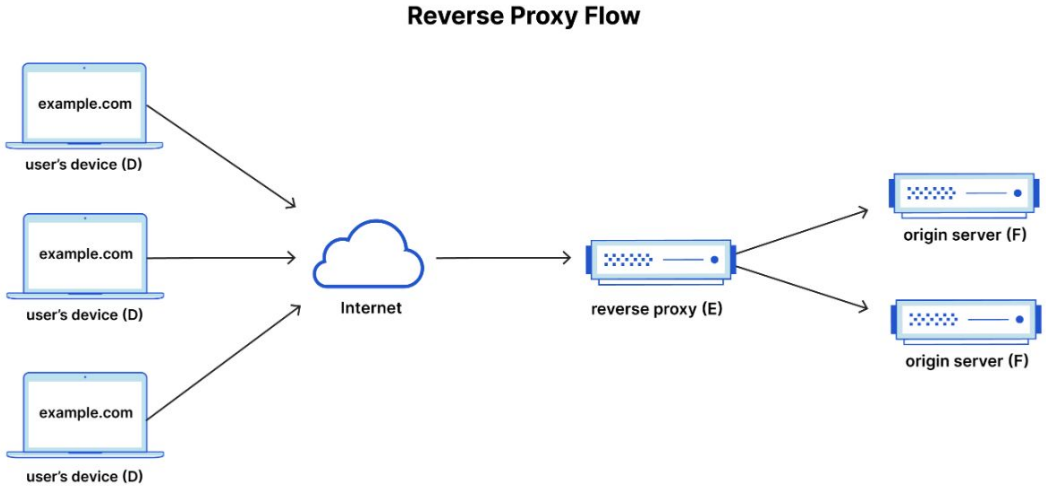
Why we use Forward Proxy:

- To avoid state or institutional browsing restrictions
- To block access to certain content
- To protect clients identity online
- To cache the contents
- Traffic management
- Logging and monitoring

In summary, forward proxies provide anonymity, control, security, and efficiency in managing client requests to external servers.

Types and Functions

- **Reverse Proxy :** Typically all requests from D would go directly to F, and F would send responses directly to D. With a reverse proxy, all requests from D will go directly to E, and E will send its requests to and receive responses from F. E will then pass along the appropriate responses to D.



Reverse Proxy

Why we use Reverse Proxy:

- Load Balancing
- Protection from attacks
- Global server load balancing
- Caching
- SSL encryption

In summary, reverse proxies are used to improve the performance, security, scalability, and manageability of backend servers by acting as intermediaries that handle various tasks such as load balancing, SSL termination, and caching.