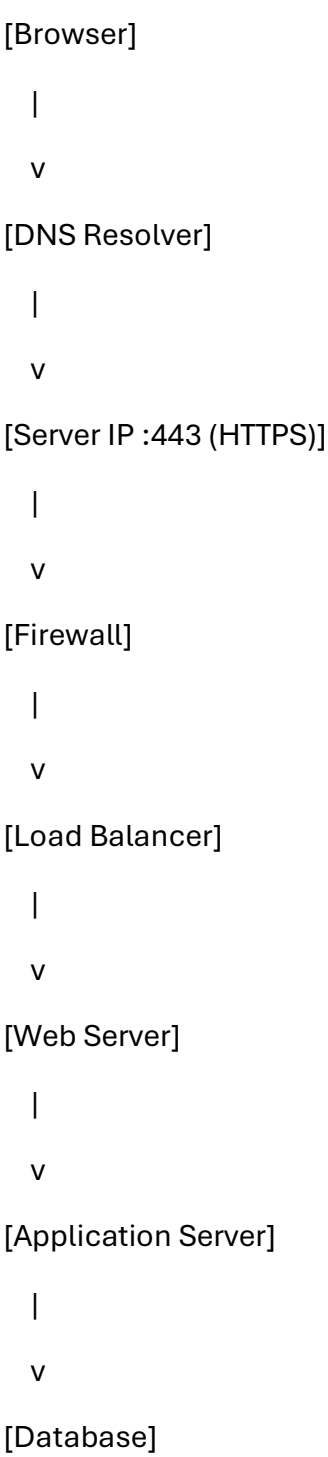
what happens when typing https://www.google.com in a browser. Let me break down the components and create a detailed response.

Network Flow Diagram for Google.com Request



The diagram includes all required components and follows these best practices:

Components Included:

1. **DNS Resolution Flow** :
    a. Browser DNS cache check
    b. DNS Recursor
    c. Root Name Server
    d. TLD Server
    e. Authoritative Name Server
2. **Security Components** :
    a. Firewall representation (using the standard brick wall symbol)
    b. HTTPS/SSL encryption indication (using lock symbols)
3. **Load Balancing** :
    a. Load balancer distributing traffic across multiple servers
    b. Arrows showing traffic distribution
4. **Server Architecture** :
    a. Web servers
    b. Application servers
    c. Database servers

Design Choices :

1. **Symbol Conventions** :
    a. Used standard network diagram symbols for clarity
    b. Clear directional arrows showing data flow
    c. Proper labeling of all components
2. **Layout Structure** :
    a. Left-to-right flow for easy reading
    b. Minimal line crossing for clarity
    c. Logical grouping of related components
3. **Color Coding**:
    a. Different colors for different types of connections
    b. Distinct colors for security zones

c. Visual separation of different processing stages

Process Flow Illustrated:

1. **Initial Request** :
    a. Browser initiates DNS lookup
    b. DNS resolution process shown step by step
2. **Security Layer** :
    a. HTTPS/SSL encryption
    b. Firewall processing
    c. Security checks
3. **Load Distribution** :
    a. Load balancer receiving encrypted traffic
    b. Distribution to available web servers
4. **Server Processing** :
    a. Web server handling initial request
    b. Application server processing
    c. Database interaction
    d. Response compilation and return