



IS  
2<sup>nd</sup>  
material

# Network



What is a primary function of HTTP in web communication?

- A) To store email messages
- B) To establish physical connections
- C) To request and transfer web objects
- D) To provide encryption services

Which HTTP request type is used to retrieve data without altering server state?

- A) POST
- B) PUT
- C) GET
- D) DELETE

The status code 404 in an HTTP response indicates:

- A) Request is unauthorized
- B) Page not found
- C) Internal server error
- D) Service temporarily unavailable

In the client-server model, the client typically:

- A) Runs on multiple servers
- B) Directly contacts the server for services
- C) Holds a permanent IP address
- D) Transfers files to peers directly

What is the role of the DNS in a network?

- A) It routes IP packets
- B) Maps domain names to IP addresses
- C) Authenticates emails
- D) Provides data encryption

In the DNS system, the authoritative DNS server is responsible for:

- A) Relaying packets to different networks
- B) Handling top-level domain requests
- C) Providing mappings for an organization's domains
- D) Distributing data evenly

Which email protocol uses port 25 and transfers email between servers?

- A) POP3
- B) IMAP
- C) HTTP
- D) **SMTP**

What method is commonly used to maintain user session states on web applications?

- A) Caching
- B) **Cookies**
- C) IP address tracking
- D) Direct socket programming

A primary advantage of peer-to-peer (P2P) file sharing is:

- A) Reduced user data usage
- B) Centralized data management
- C) **Self-scalability with added peers**
- D) Lower security requirements

HTTP/2 improved upon HTTP/1.1 by:

- A) Removing the need for IP addresses
- B) **Allowing simultaneous object transmission over one connection**
- C) Eliminating the need for TCP connections
- D) Ensuring all communication is encrypted

DNS cache can lead to stale records due to:

- A) Permanent IP assignments
- B) **Long Time-to-Live (TTL) values**
- C) Lack of authoritative servers
- D) Continuous querying

Which HTTP method allows data to be sent in the URL itself?

- A) **GET**
- B) POST
- C) PUT
- D) DELETE

SMTP uses which type of interaction model?

- A) Client pull
- B) Client push**
- C) Peer-to-peer
- D) Store-and-forward

In BitTorrent, peers use the 'tit-for-tat' mechanism to:

- A) Stream video content
- B) Encourage mutual file sharing**
- C) Cache data locally
- D) Download content faster than upload

In a web cache, the 'Conditional GET' method is primarily used to:

- A) Enable content modification
- B) Retrieve only modified content**
- C) Streamline email communication
- D) Identify user location

Which protocol is typically used for encrypted email transfer?

- A) FTP
- B) HTTP
- C) IMAPS**
- D) SMTP

The DNS protocol primarily operates over which transport layer protocol?

- A) UDP**
- B) TCP
- C) FTP
- D) SMTP

Which HTTP status code indicates a successful request?

- A) 200**
- B) 301
- C) 400
- D) 500

An HTTP 'PUT' request is used to:

- A) Retrieve data from a server
- B) Send data to a server to update a resource**
- C) Delete a resource on the server
- D) Request server status

In SMTP communication, what command is used to specify the email recipient?

- A) MAIL
- B) RCPT TO**
- C) DATA
- D) HELO

Which is a primary feature of persistent HTTP connections?

- A) Multiple TCP connections per object
- B) A single TCP connection can handle multiple requests and responses**
- C) Connection closes immediately after each object transfer
- D) Requires a new socket for each request

In BitTorrent, the 'tracker' is used to:

- A) Store the files shared among peers
- B) Track and list all peers participating in a specific torrent**
- C) Encrypt peer connections
- D) Handle file uploads

What is the role of the 'manifest file' in DASH streaming?

- A) Lists available servers
- B) Provides URLs for video chunks at different bitrates**
- C) Tracks download speeds
- D) Stores video buffer information

A local DNS server primarily:

- A) Provides mappings for external domains only
- B) Handles direct IP-to-name translation
- C) Caches DNS mappings to reduce lookup times**
- D) Communicates with root servers exclusively

In P2P file sharing, the term 'self-scalability' refers to:

- A) Peers having fixed upload limits
- B) The network's capacity increasing as new peers join
- C) Centralized control over peer activities
- D) Limited number of users in a torrent

What is a major advantage of HTTP/3 over HTTP/2?

- A) Uses TCP exclusively for reliability
- B) Reduces latency through improved error handling over UDP
- C) Provides stateful connections for each request
- D) Increases header sizes for better data representation

DNS caching primarily benefits network performance by:

- A) Reducing the time for resolving repeated queries
- B) Allowing direct connections to root servers
- C) Eliminating the need for IP addresses
- D) Shortening TTL values

What is the purpose of 'Conditional GET' in HTTP?

- A) Minimizes data transmission for cached data
- B) Encrypts the connection between client and server
- C) Establishes a new connection per request
- D) Updates server data conditionally

In the context of socket programming, a 'client socket' is primarily responsible for:

- A) Receiving broadcast data only
- B) Listening for incoming connections
- C) Initiating a connection to a server socket
- D) Managing data routing between applications

Which HTTP status code indicates that the client is unauthorized to access the resource?

- A) 301
- B) 401
- C) 403
- D) 500

HTTP is a stateless protocol.

True

False

Cookies allow websites to track user behavior across sessions.

True

False

The DNS root server is responsible for resolving all domain names directly.

True

False

SMTP is used to retrieve email from the server to the client.

True

False

HTTP/2 allows only one object request per TCP connection.

True

False

IMAP allows users to organize emails on the server and access them from multiple devices.

True

False

In a peer-to-peer network, each peer can act as both client and server.

True

False

A DNS query response may be cached for quicker future requests.

True

False

The POP3 protocol is generally used for email retrieval and does not support folder organization on the server.

True

False

HTTP POST requests do not include data in the request URL.

True

False

Cookies are stored on the server.

True

False

With non-persistent HTTP, each object on a web page requires a new TCP connection.

True

False

SMTP operates over a UDP connection.

True

False

In a client-server model, the server always initiates the connection to the client.

True

False

HTTP/3 is designed to operate over UDP instead of TCP.

True

False

An IP address is sufficient to identify a process on a server.

True

False

The DNS is a centralized database managed by a single entity.

True

False

Web caches help reduce latency and conserve bandwidth.

True

False

A peer-to-peer network architecture improves scalability with the addition of new peers.

True

False



Using a TCP connection, data transfer in SMTP is always secure by default.

True

**False**