

# HTTP, Session, & Cookie



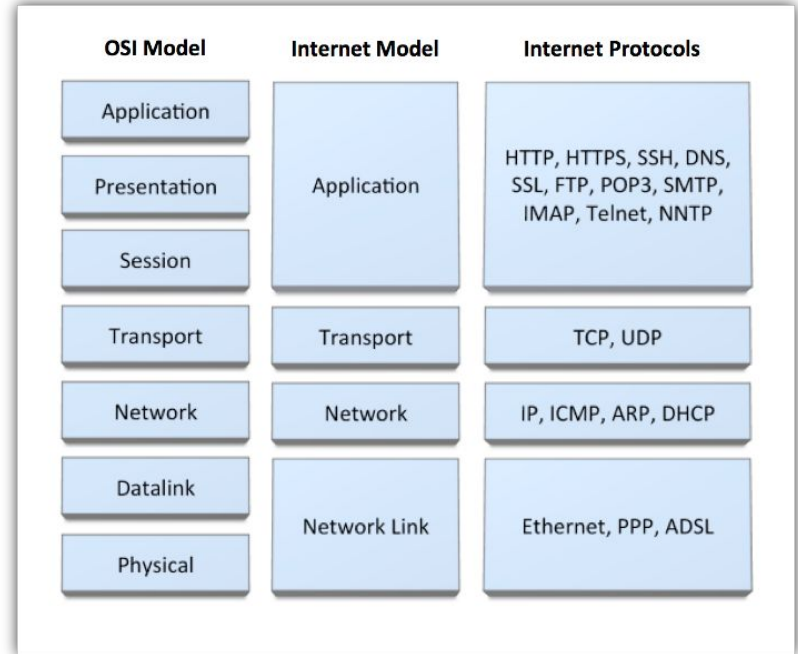
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# So what is HTTP?

- ★ Hypertext Transfer Protocol: ([wikipedia](#))  
The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web.
- ★ At which layer is it?
  - Which transport protocol and port does it use?
- ★ BTW, what is the OSI Model?

## Open Systems Interconnection:

[short description of layers](#)



Network Layers & Protocols

([source link](#))

# HTTP Session

- ★ First, just think about a ***user session***: a sequence of requests and responses that are assumed to from/to the same user in a time window.
- ★ So there is some kind of *state*.
- ★ But HTTP is [stateless](#).
- ★ HTTP Session is a mechanism to implement statefulness using a stateless protocol.
  - How? Read [this link](#).

# HTTP Cookie

★ An HTTP cookie is a small piece of data sent from a website and stored in the user's web browser while the user is browsing. Every time the user loads the website, the browser sends the cookie back to the server to notify the user's previous activity. ([wikipedia](#))

★ Structure:

1. Name and value
2. Some attributes

★ Attributes:

- Domain and Path
- Expires and Max-Age
- Secure and HttpOnly

★ Types:

- Session cookie
- Persistent cookie
- Secure cookie
- HttpOnly cookie
- Third-party cookie

# Using HttpSession

## ★ In Java

- `HttpSession session = request.getSession(true);` // creates if it doesn't exist
- Take a look at [the API](#)
- Access in JSP?

Short answer: **session** is a defined variable in JSP codes

But there is a better way: look at [this stackoverflow answer](#)

## ★ What can we keep in the session?

- User information for identification, tracking, etc.
- Data records fetched from the database

## ★ Any concerns about binding data to the session?

- Concurrency
- Consistency
- Updates