**In class activity - Ch.2 (2.1 Network Applications)**

1. Architecture for application-layer apps:
   1. Client - Server
   2. P2P (for intense traffic; cost efficient; scalable)
2. Develop application-layer apps over TCP and UDP (transport layer).

|  |  |
| --- | --- |
| **TCP** | **UDP** |
| 3-way handshake connection | x |
| Reliable | x |
| Has congestion control | x |
| Persistent (by default) | x |
| Takes 2RTT | 1 RTT |

1. Socket = software interface between application and transport layer

* (IP address + socket port #) uniquely identifies an application-layer process

1. Application-layer apps

|  |  |  |
| --- | --- | --- |
| **Application** | **Appl.-layer protocol** | **Transport protocol** |
| Web |  |  |
| File transfer |  |  |
| E-mail |  |  |
| DNS |  |  |
| Internet telephone |  |  |
| P2P file sharing |  |  |
| Multimedia stream (YouTube) |  |  |

1. In this chapter we study:

1) Web application

2) FTP

3) E-mail

4) DNS

5) P2P