The following table compares all the important application layer protocols-

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **DNS** | **HTTP** | **SMTP** | **POP** | **FTP** |
| **Stateful / Stateless** | Stateless | Stateless | Stateless | Stateful | Stateful |
| **Transport Protocol Used** | UDP | TCP | TCP | TCP | TCP |
| **Connectionless / Connection Oriented** | Connectionless | Connectionless | Connection Oriented | Connection Oriented | Connection Oriented |
| **Persistent / Non-persistent** | Non-persistent | HTTP 1.0 is non-persistent.  HTTP 1.1 is persistent. | Persistent | Persistent | Control connection is persistent.  Data connection is non-persistent. |
| **Port Number Used** | 53 | 80 | 25 | 110 | 20 for data connection.  21 for control connection. |
| **In band / Out-of-band** | In band | In band | In band | In band | Out-of-band |