Client

Client State

| ESTABLISHED |
⬇
| FIN-WAIT-1 |
⬇
| FIN-WAIT-2 |
⬇
| TIME-WAIT |
⬇ (timer)
⋮
| CLOSED |

Receive Close Signal From App, Send FIN

Wait for ACK and FIN From Server

Receive ACK

Wait for Server FIN

Receive FIN, Send ACK

Wait For Double Maximum Segment Life (MSL) Time

Server

Server State

| ESTABLISHED |
⬇
| CLOSE-WAIT |
⬇
| LAST-ACK |
⬇
| CLOSED |

Normal Operation

Receive FIN, Send ACK, Tell App To Close

(Wait for App)

App Is Ready To Close, Send FIN

Wait for ACK to FIN

Receive ACK

(#1) *FIN*

(#2) *ACK*

[#1] *FIN*

[#2] *ACK*

The TCP/IP Guide