

# Controlling Bandwidth in JMeter to simulate different networks

## How to simulate network bandwidth in JMeter?

JMeter let's you simulate network bandwidth very easily.

### Where to define the network bandwidth?

In `jmeter.properties` we can read:

```
{{{#!properties
# Define characters per second > 0 to emulate slow connections
#httpClient.socket.http.cps=0
#httpClient.socket.https.cps=0
}}}
```

### How to modify network bandwidth?

cps values are calculated with this formula :

- $\text{cps} = (\text{target bandwidth in kbps} * 1024) / 8$

### Some examples:

Network bandwidth	cps value
Mobile data GPRS : 171 kbit/s	21888
Mobile data EDGE : 384 kbit/s	49152
Mobile data HSPA : 14,4 Mbp/s	1843200
Mobile data HSPA+ : 21 Mbp/s	2688000
Mobile data DC-HSPA+ : 42 Mbps	5376000
Mobile data LTE : 150 Mbp/s	19200000
WIFI 802.11a/g : 54 Mbit/s	6912000
WIFI 802.11n : 600 Mbit/s	76800000
Ethernet LAN ; 10 Mbit/s	1280000
Fast Ethernet : 100 Mbit/s	12800000
Gigabit Ethernet : 1 Gbit/s	128000000
10 Gigabit Ethernet : 10 Gbit/s	1280000000
100 Gigabit Ethernet : 100 Gbit/s	12800000000
WAN modems V.92 modems : 56 kbit/s	7168
ADSL : 8 Mbit/s	1024000
ADSL2 : 12 Mbit/s	1536000
ADSL2+ : 24 Mbit/s	3072000

### Configuration summary:

1. Ensure you use [HttpClient](#) 3.1 or [HttpClient](#) 4 implementations
2. Configure bandwidth by defining the 2 properties above in `<jmeter home>/bin/user.properties`

### Author:

Antonio Gomes Rodrigues