Prof. Dr. Christian Schindelhauer   Freiburg, 10/27/2009
Volker Uhrig, Javier Castillo

Practical Exercises
Communication Systems (Rechnernetze II)
Topic Basics 2

Exercise 1:
If you have started the image or laptop successfully, you will find it with an IP-address. Figure out which one it is! Now set up a second IP-address 172.23.19.x. Use *ifconfig ethY:1*. But watch out: The number X should not be equal to a number from anyone in this room :) Figure out what „:1" means. Explain what we did. Maybe you also know why we did it!

Exercise 2:
Start the wireshark program on your Ethernet interface (typically *ethN*, N some number starting from 0)! ping 127.0.0.1. Do you see any packets? Why/not?

Exercise 3:
Ping again: point your wireshark to your loopback interface and ping -s 8192 127.0.0.1 How many packets are generated? After that: point your wireshark to your Ethernet interface and ping -s 8192 132.230.4.2 How many packets are generated? Why?

Exercise 4:
Find out with wireshark or similar tools what kind of transport layer protocols are used by ICMP, SSH, HTTP, FTP, DNS. How to trigger the use of these networks - example: open some SSH connection, even if the host is not reachable, and use wireshark to analyze.

Exercise 5:
If you are really fast: Try to find out how to change the MAC address of your Ethernet card!