**App1**

Inside the directory created “app1\_directory”

**App2**

# 1) Make sure the output directory exists

mkdir -p /tmp/tmp

# 2) See the built-in help (optional)

./app2 -help-of-this-app

# 3) Run it with a real random device

./app2 /dev/urandom

# or

./app2 /dev/random

Then check /tmp/tmp a txt file should appear there!

A **random device** in Unix/Linux is a *special file* that the kernel provides to generate random numbers. The two most common ones are:

* **/dev/random**
  + A *blocking* random device: it waits until there’s enough “entropy” (randomness collected from hardware, keystrokes, network timings, etc.).
  + Good for cryptographic use.
  + But it can “hang” if the system is low on entropy.
* **/dev/urandom** (**u**nlimited random)
  + A *non-blocking* random device: it keeps producing random bytes, even if entropy is low.
  + Usually the one most applications use.
  + Slightly less strict than /dev/random, but still secure for most purposes.

Google

142.250.74.110

What hostname it is asking for

strace -s 200 -xx -e sendto,recvfrom ./app3

echo "<IP> blabla.secure-programming.lt" | sudo tee -a /etc/hosts

check dns resolver

cat /etc/resolv.conf

Add host entry:

echo "127.0.0.1 blabla.secure-programming.lt" | docker exec -i -u 0 great\_mestorf tee -a /etc/hosts > $null

**App4**

**DNS**

docker run --rm -it --dns 8.8.8.8 --dns 1.1.1.1 -w /home/magistras/app4 sec-pro-img ./app4