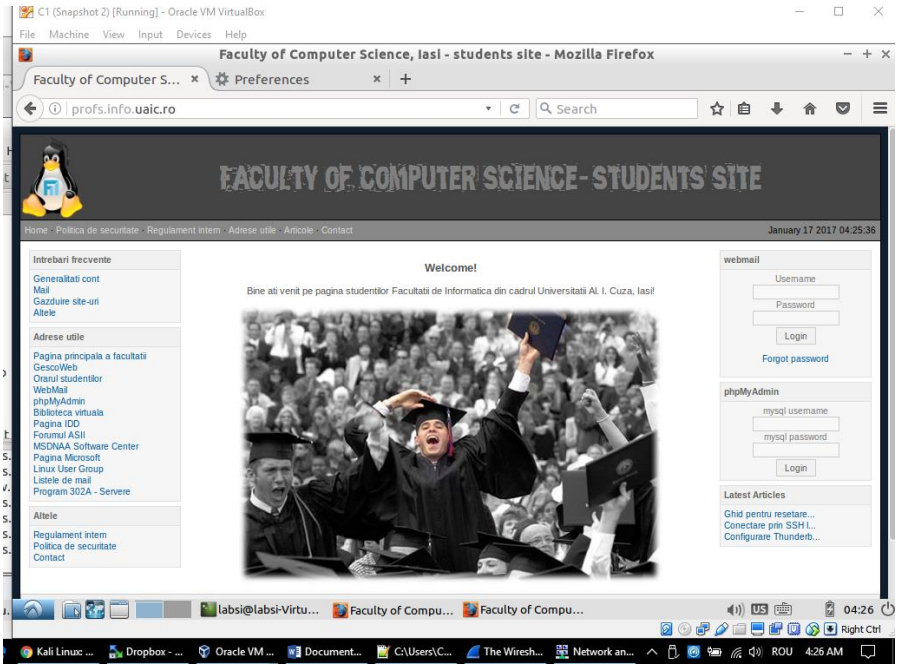
[A3] DNS Server Cache Poisoning

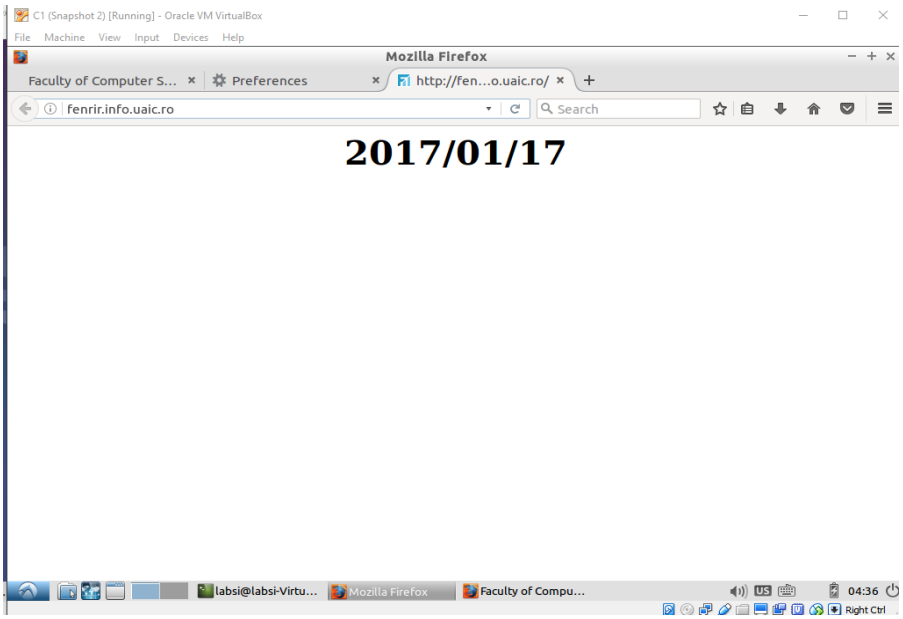
Strategia aleasa pentru atac și implementarea atacului:

Cand un client va vrea sa intre pe profs.info.uaic.ro = 85.122.23.20 va fi redirectat pe fenrir.info.uaic.ro = 85.122.23.145.

OBS. Am incercat initial cu redirecate situri populare precum microsoft.com , facebook.com dar acestea nu au functionat acesta mergand cu https.

Solutie : dezactivarea unor optiuni de securitate din browser. Sau folosirea unor site-uri nesecurizate : profs si Fenrir.





Mediu de lucru :

3 Masini virtuale : Ruter –local DNS , C1 , C2 -Atacator

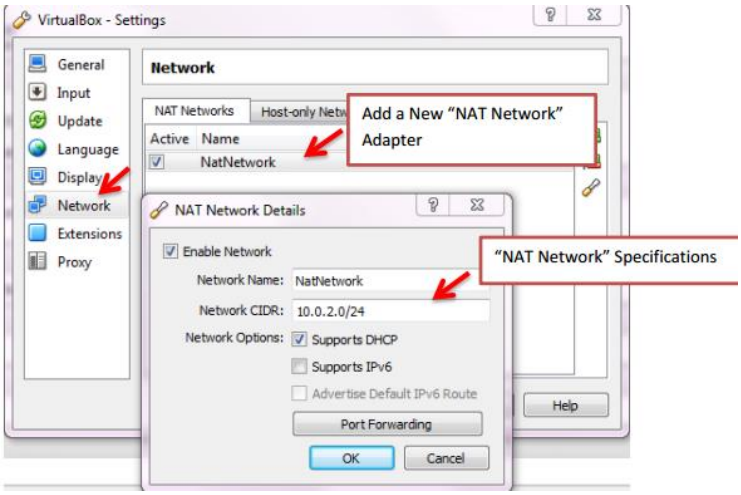
Configurare mediu de lucru:

Am configurat respectand indicatiiile de aici **cu diferenta ca la C1 am modificat** potrivit atacului lista dns-nameservers 192.168.1.11 care este adresa ruterului (severului DNS local).

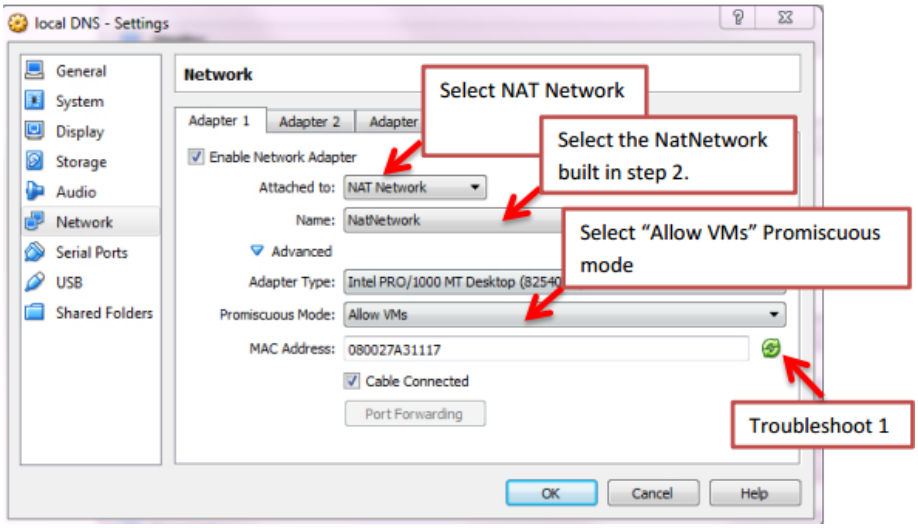
OBS. Atacatorului (C2) i-au ramas adresele serverelor DNS la care interogheaza si ruterul, altfel s-ar ataca pe el insusi.

Am configurat virtual box astfel:

1. Am creat din File > Preferences un **NatNetwork**



2. Am configurat ruterul cu eth0 (Adaptor1) atasat la **NatNetwork** si cu eth1(Adaptor2) atasat la **Internal Network.**



3. Am configruat MV C1, apoi prin clonare cu C1 am creat C2, **attached to Internal Network.**
4. **Configurare mediu de lucru:**

Ruter	**C1**	**C2**
traceroute dnsutils	**traceroute dnsutils**	**traceroute dnsutils**
Instalare Server DNS bind9 **Configurare server DNS**	**Config client schimbare NS**	**Instalare ettercap**
		Ettercap -G

Configurare server DNS:

Am realizat-o după aceste linkuri

https://help.ubuntu.com/14.04/serverguide/dns-configuration.html#dns-caching-configuration

Si am verificat setarile cu

https://help.ubuntu.com/14.04/serverguide/dns-troubleshooting.html#dns-testing-dig

Comenzi:

Ruter:

Ifconfig

Nslookup

Dig -x addr

sudo rndc flush

sudo rndc dumpdb -cache

sudo cat /var/cache/bind/dump.db

C1(client victima):

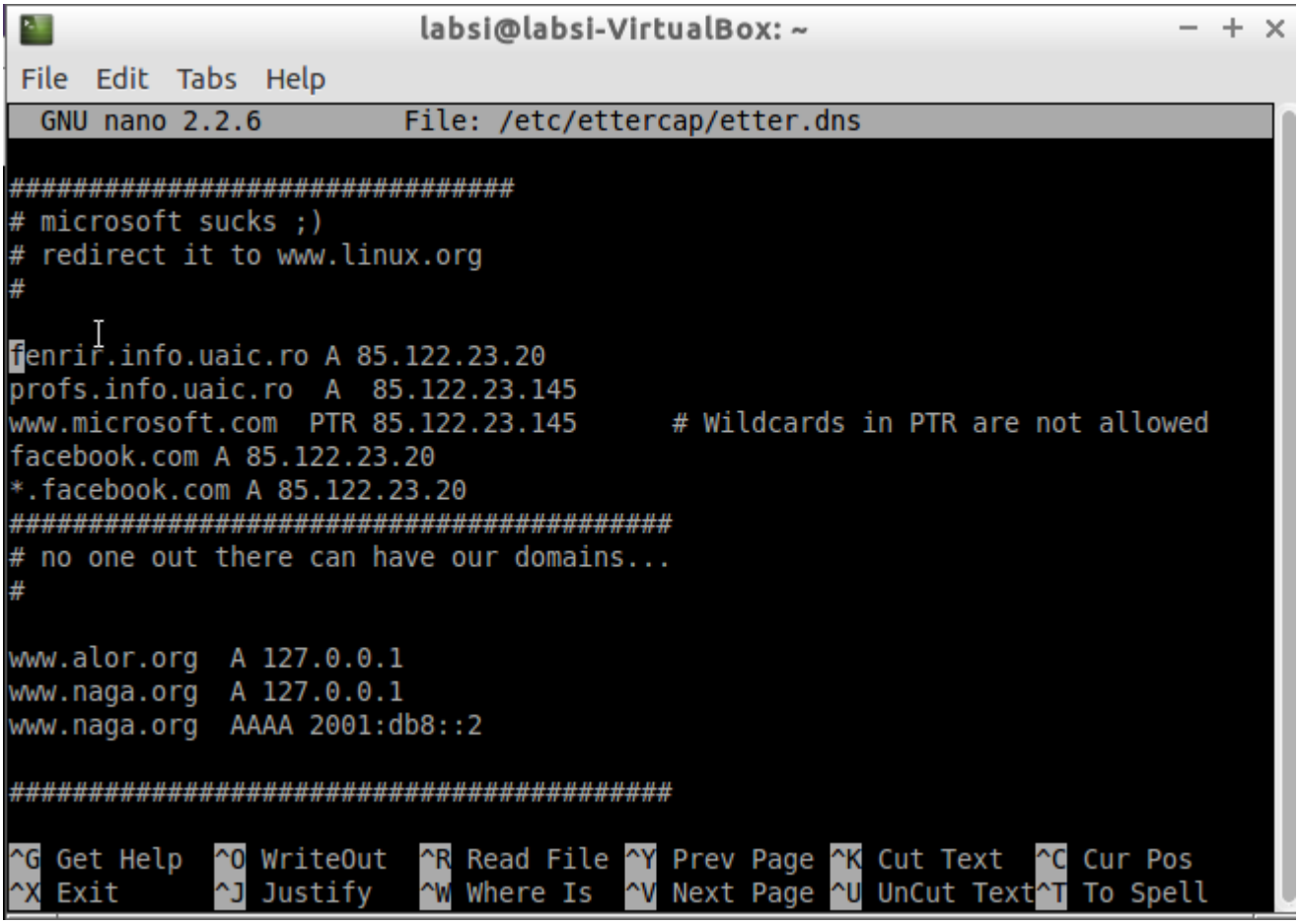
arp

Ping 192.168.1.13

firefox

C2(atacator):

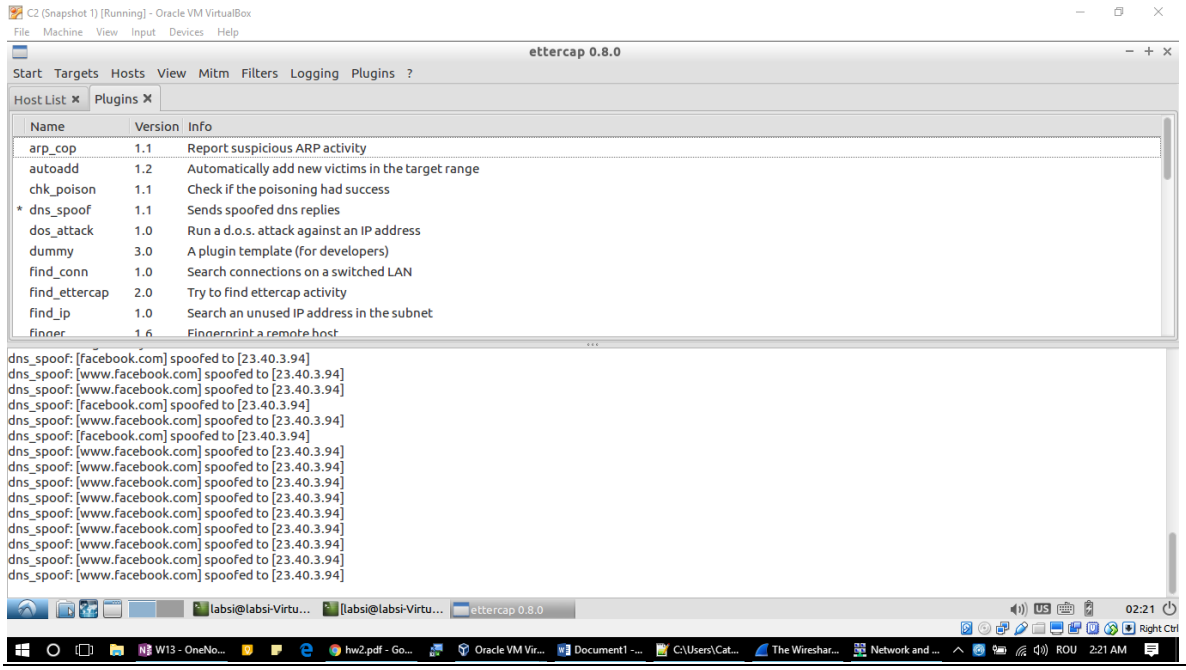
sudo nano /etc/ettercap/etter.dns



OBS. Aici se seteaza numele pentru care se va inlocui IP-ul prin Spoofing

sudo ettercap –G

Pași de urmat cu ettercap –G:
Start sniffing pe eth0
Scan host
Add target 1 192.168.1.11
Add target 2 192.168.1.12
Select from Plugins DNS spoofing
Arp poisoning

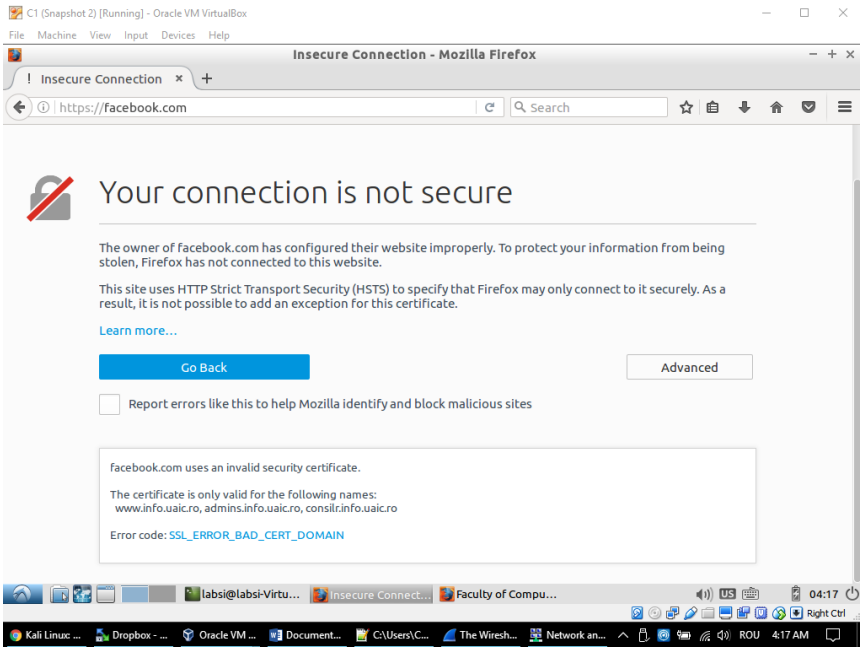


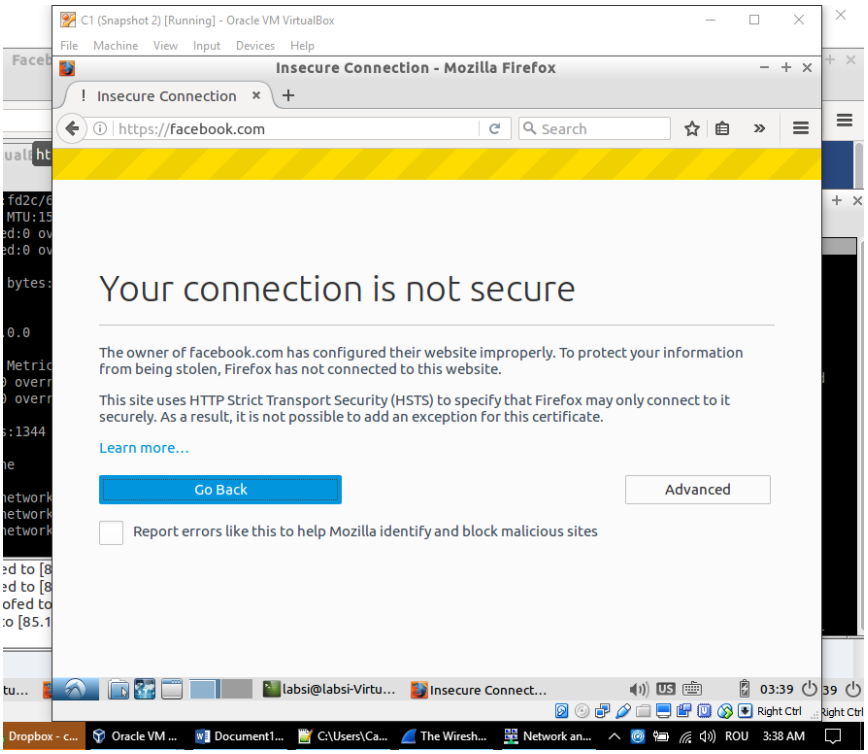
Metode de prevenire

Foarte important: Ideal este folosirea protocolului/extensiilor de securitate DNS-sec astfel atacatorul nemaiputand sa falsifice un raspuns de la un alt server DNS.

Alte recomandari ar fi un TTL(time to live) mic la cache. Iar pe partea de client optiunile de securitate la browser avtive.

Nu ar trebui sa ne dam credentialele pe un un server web **http ci https** cum este de exemplu facebook.





Char daca **acest atac poate trece peste acest detaliu** ar fi o masura de securitate inplus care ne apara si ingreuneaza efectuarea atacului.

Referinte:

Configurare:

http://profs.info.uaic.ro/~olgai/si2016/hw2.pdf

http://profs.info.uaic.ro/~olgai/si2016/config_retea.pdf

http://www.cis.syr.edu/~wedu/seed/Documentation/VirtualBox/VirtualBox_NATNetwork.pdf

https://help.ubuntu.com/14.04/serverguide/dns-configuration.html

https://help.ubuntu.com/14.04/serverguide/dns-configuration.html#dns-primarymaster-configuration

https://www.digitalocean.com/community/tutorials/how-to-configure-bind-as-a-caching-or-forwarding-dns-server-on-ubuntu-16-04