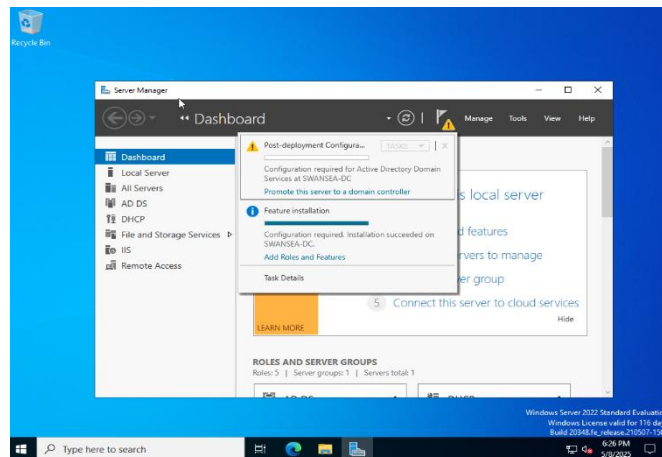


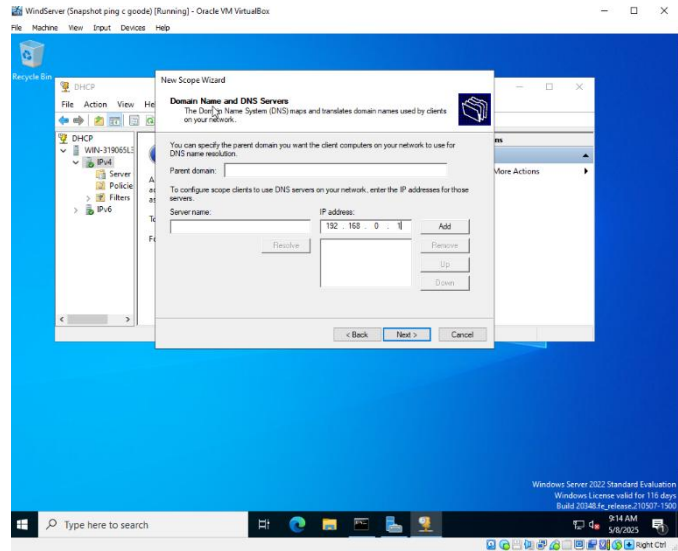
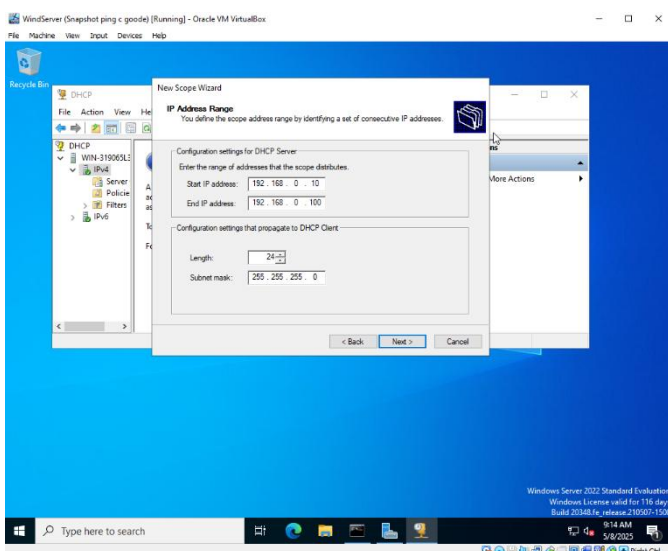
NOSS Coursework 2

Configure and managed virtualised networks

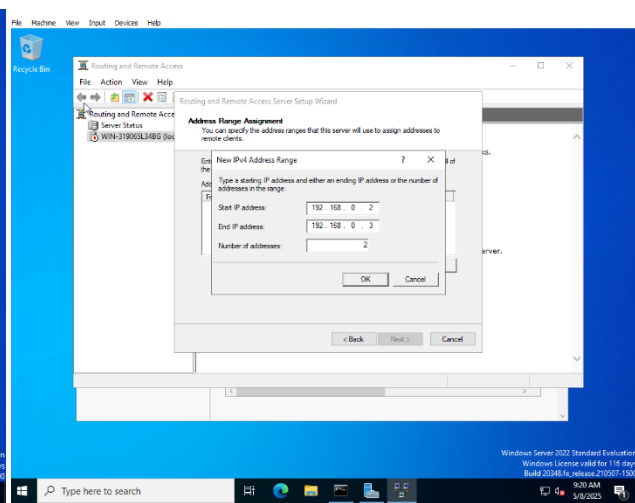
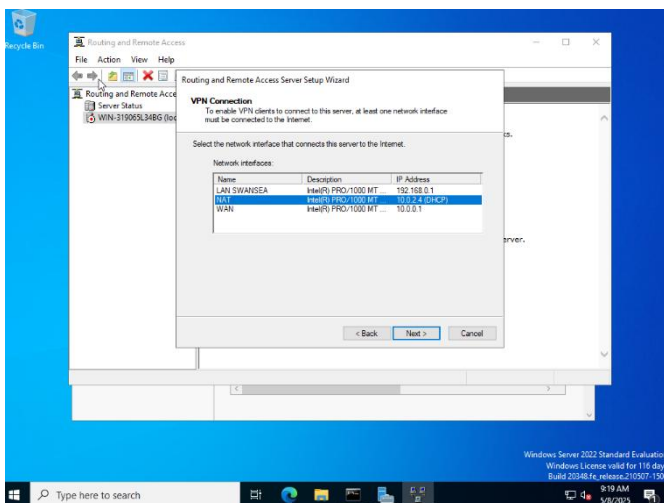
Task 1: Deliverables



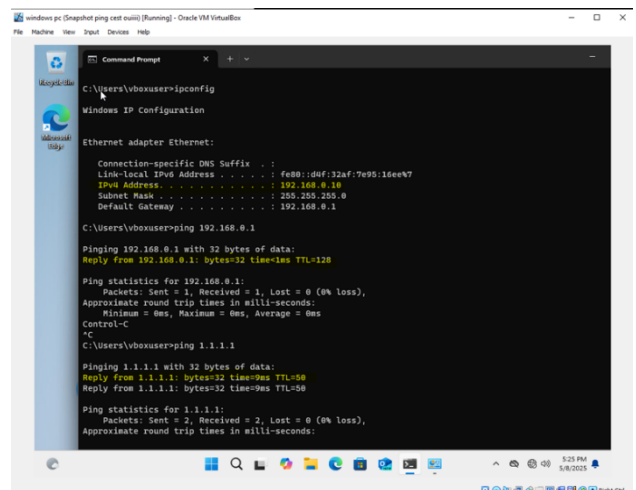
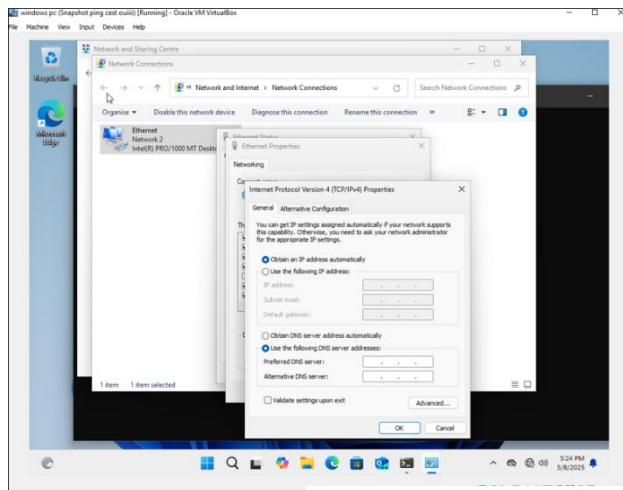
We change the Windows server name to Swansea-DC (domain controller for the active directory)



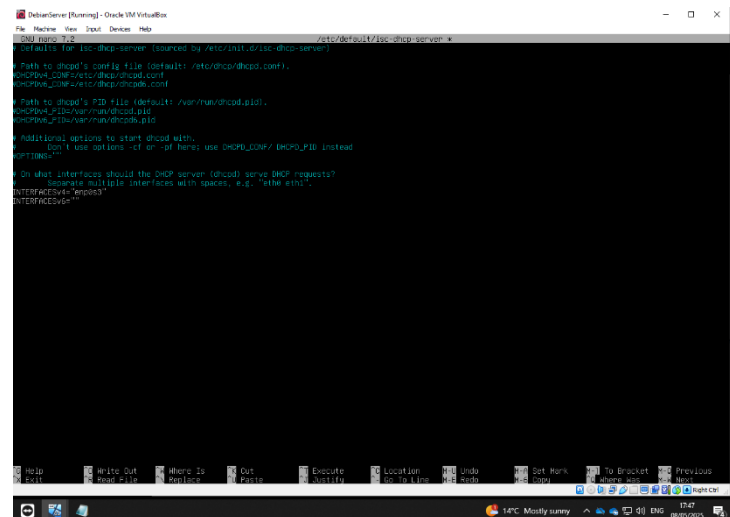
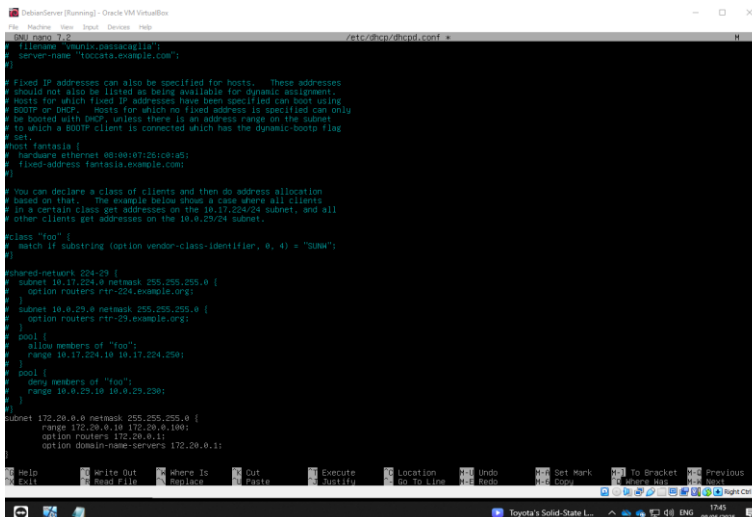
For DHCP configuration, we first configure the scope to 10 to 100. We then set the DNS router as WINSERV with NAT and DNS Serv for the AD.



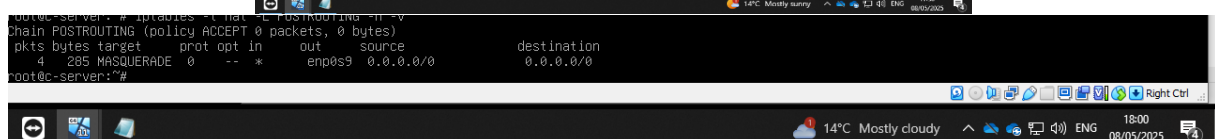
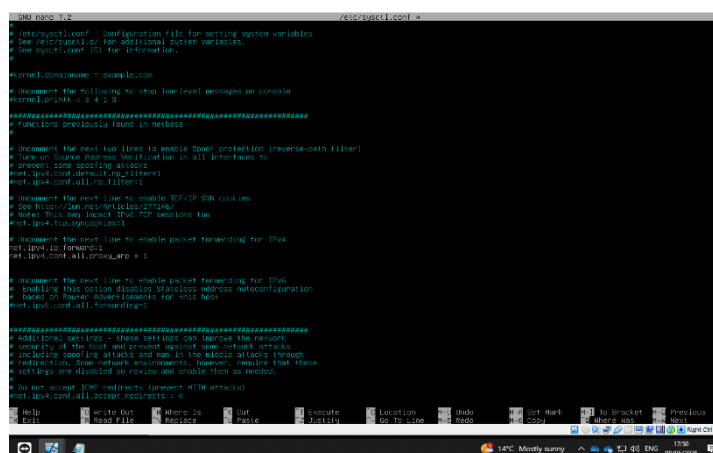
After configuring NAT, we append the IP addresses so the clients gain internet access



After enabling the echo ping on the firewall, we enable the DHCP, testing the ping and the internet connection.



Configuring the ISC-DHCP- SERVER after installing it on the Debian Server on Cardiff's LAN.



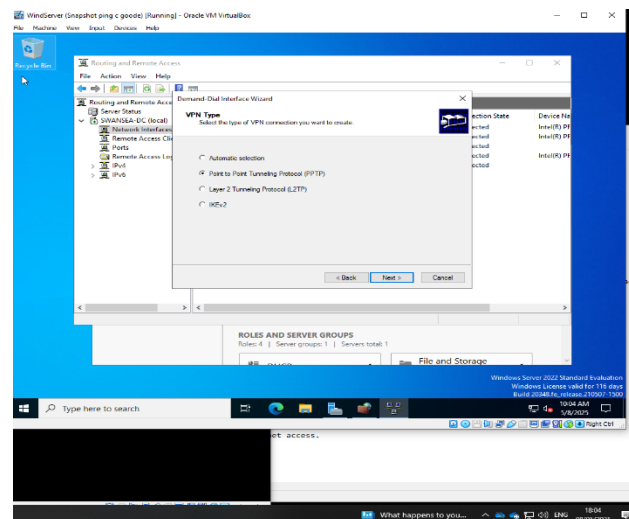
We enable IP forwarding for NAT, then Arp proxy for VPN. Using the iptables NAT rule, replies come back properly.

```

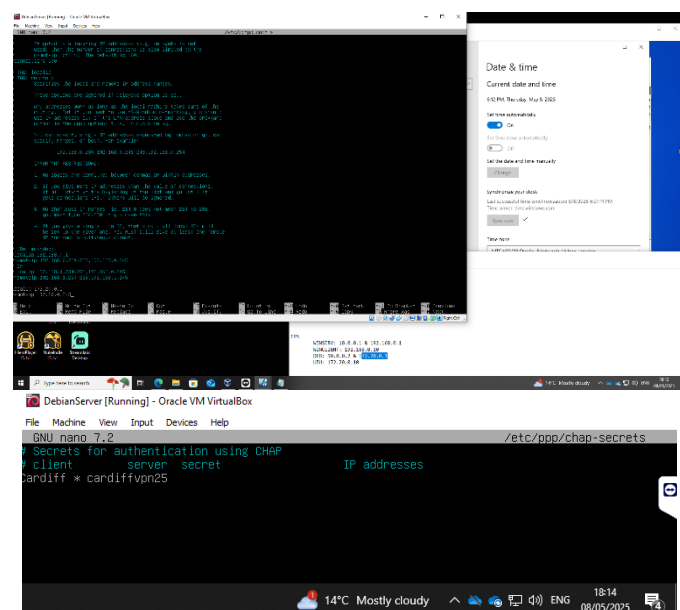
nasa@debian:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
        valid_lft forever preferred_lft forever
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:4a:8a:84 brd ff:ff:ff:ff:ff:ff
    inet 172.20.0.10/24 brd 172.20.0.255 scope global dynamic noprefixroute ens3
        valid_lft 599sec preferred_lft 599sec
nasa@debian:~$ ping 172.20.0.1
PING 172.20.0.1 (172.20.0.1) 56(84) bytes of data:
64 bytes from 172.20.0.1: icmp_seq=1 ttl=64 time=0.587 ms
^C
--- 172.20.0.1 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/ndev = 0.587/0.587/0.587/0.886 ms
nasa@debian:~$ ping 1.1.1.1
PING 1.1.1.1 (1.1.1.1) 56(84) bytes of data:
64 bytes from 1.1.1.1: icmp_seq=1 ttl=50 time=9.48 ms
^C
--- 1.1.1.1 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/ndev = 9.476/9.476/9.476/0.886 ms

```

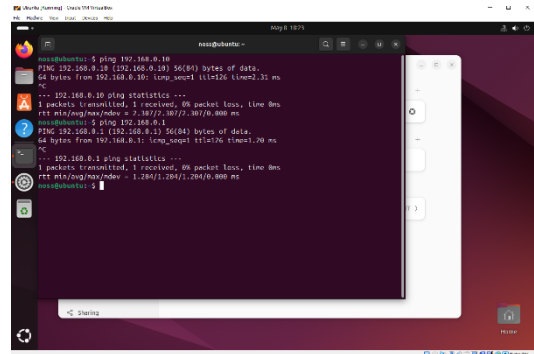
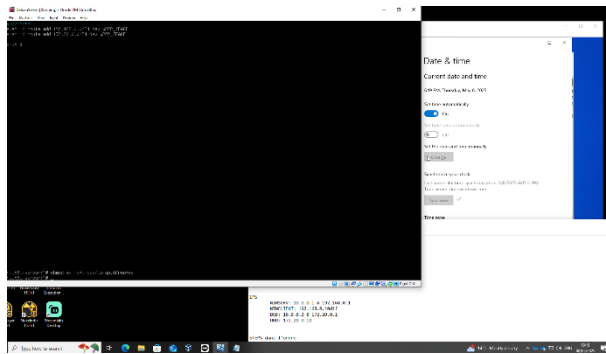
The internet access is tested, successfully.



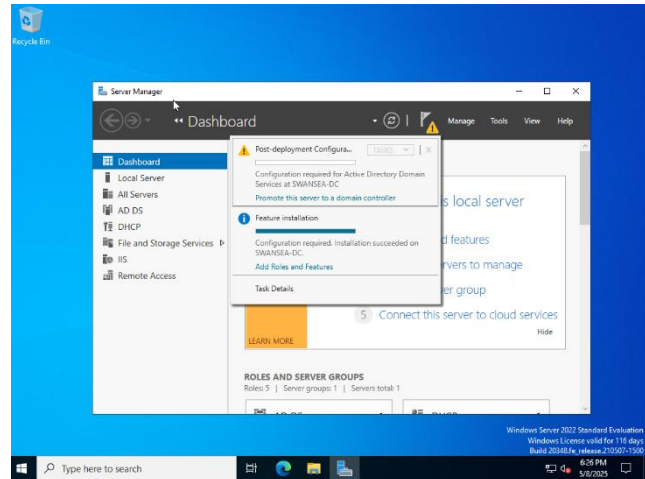
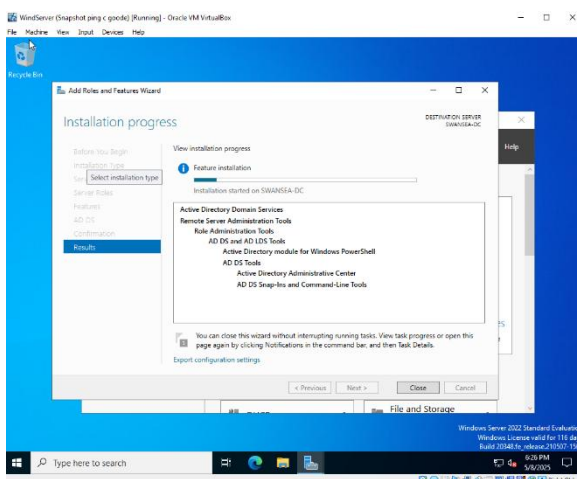
Back to the Windows server, we start setting up site-to-site VPN connection on the Swansea LAN. Using the Dial interface, we set the VPN to PPTP. The Windows server will act as the client and initiate the connection; Debian will be the VPN's server.



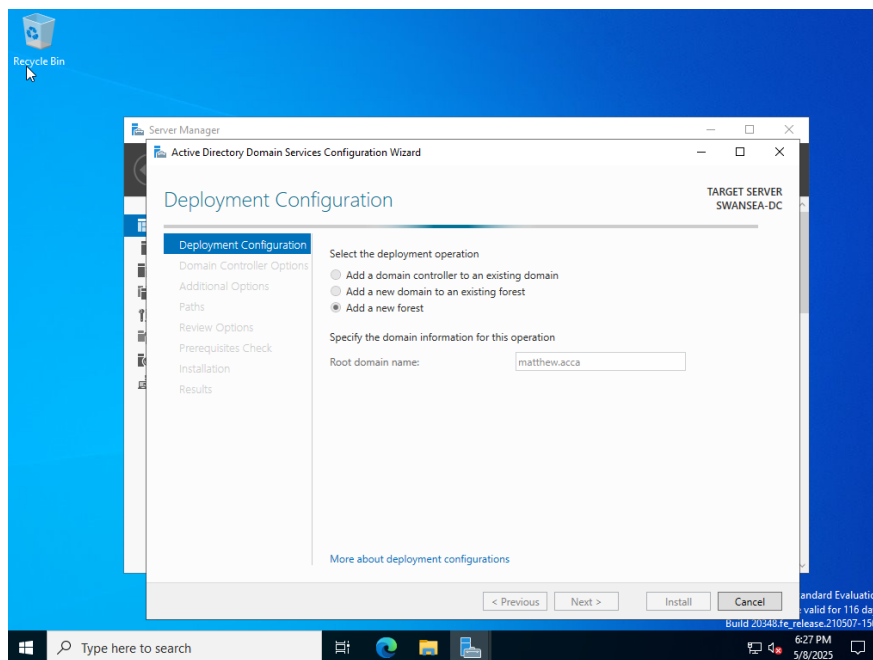
Back on Cardiff LAN, we install and configure PPTPD and PPP, and chap-secrets.



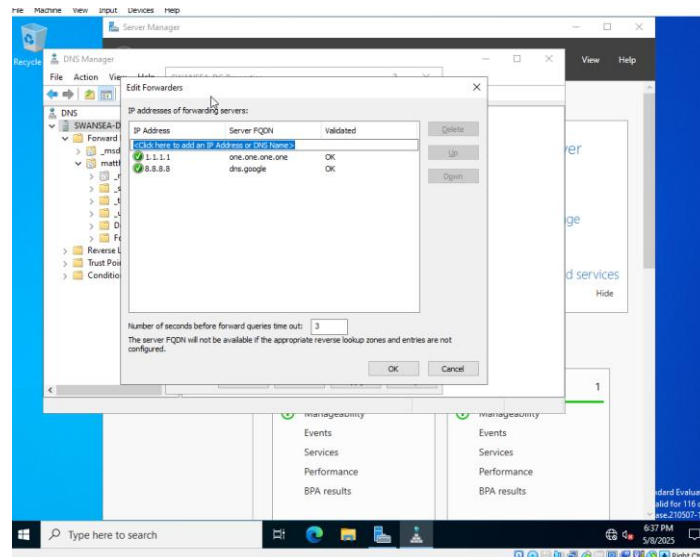
Testing ping is a success to the Swansea LAN.



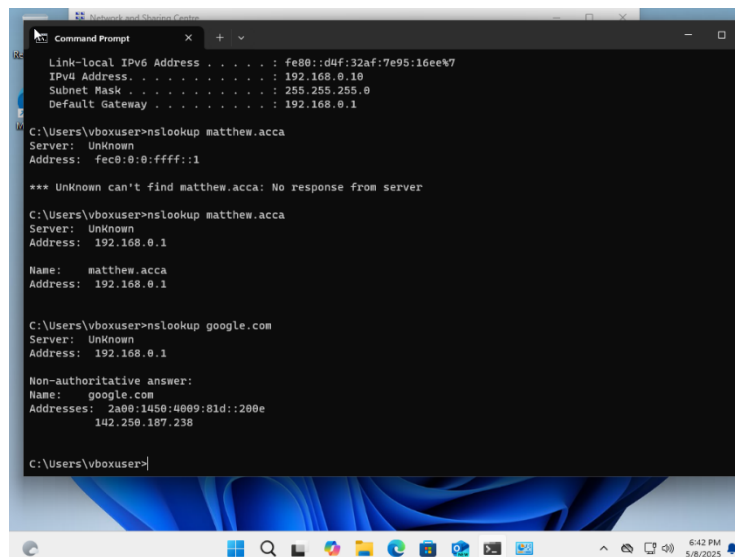
In the Swansea LAN again – the Windows server – we install the active directory, configure it and promote it to DC.



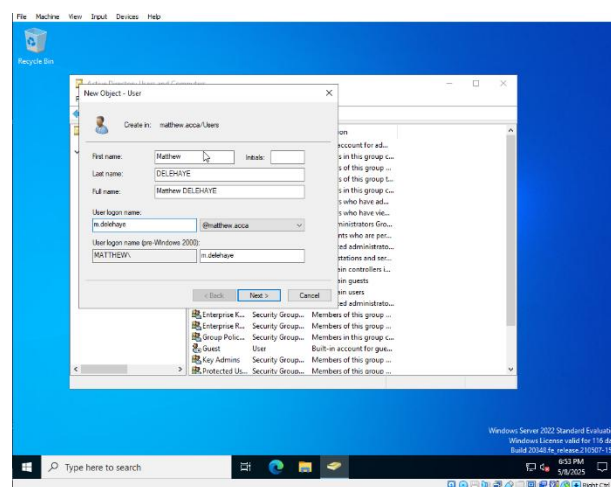
Creation of a forest under my name.



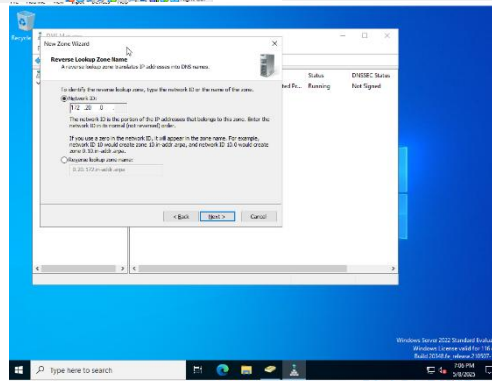
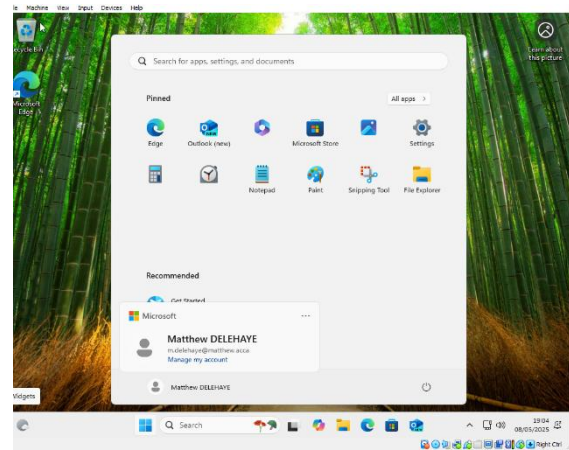
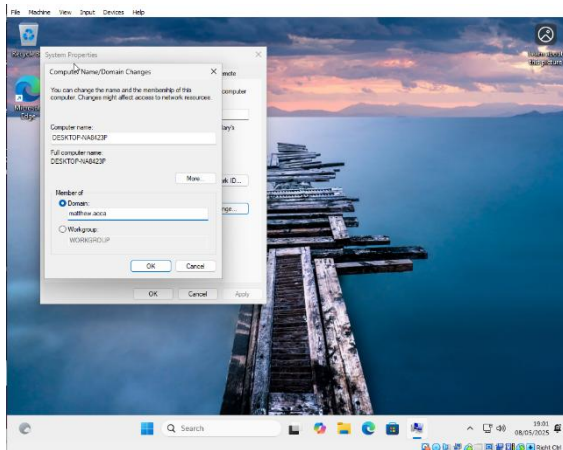
After a restart we set the DNS forwarders as 1.1.1.1 and 8.8.8.8 for external resolution



We delete unwanted scopes for the WAN; then we check for the discovery of the domain using nslookup – successful here

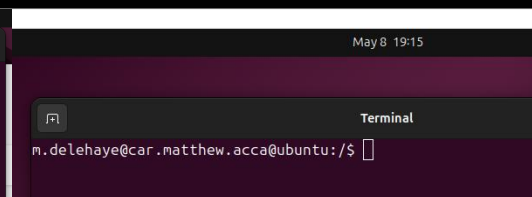
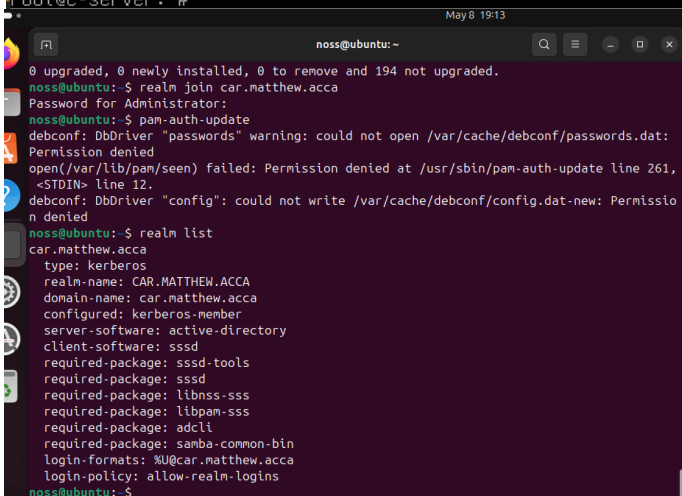
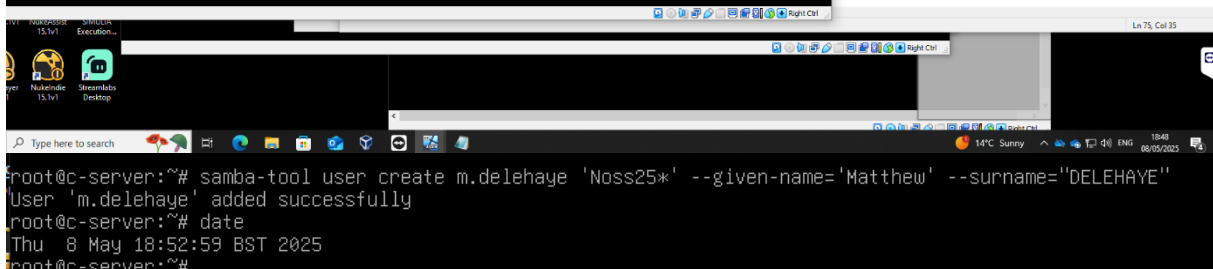


Creating my user on WindServer.

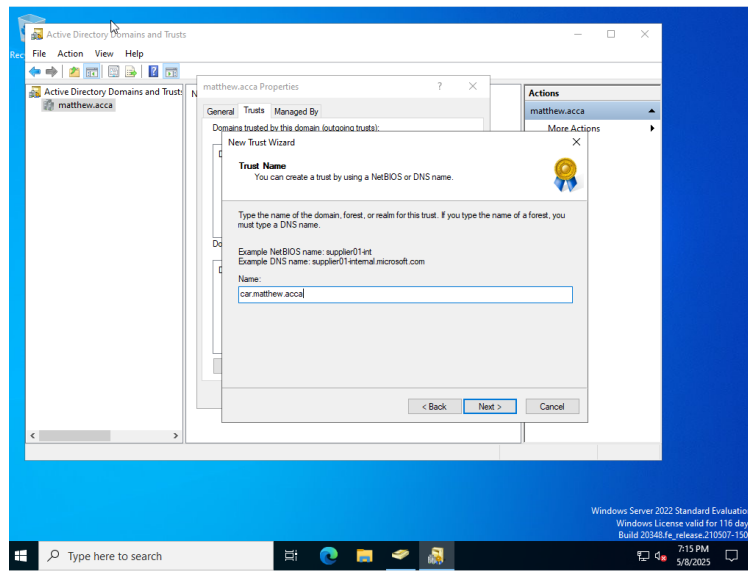


We now join the client to the domain, making sure to add DNS reverselookup, and Scope for Debian domain child.

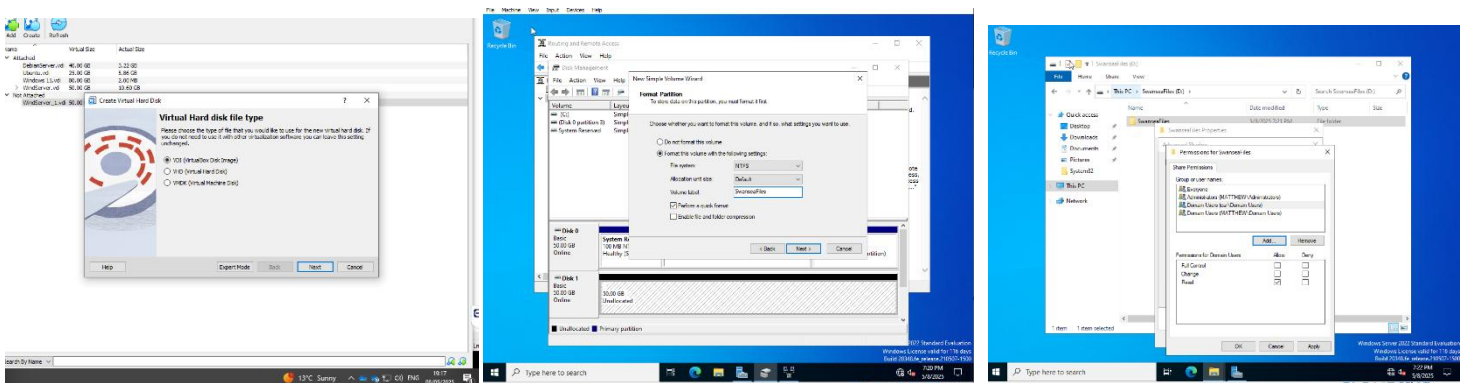
```
root@c-server:~# sudo samba-tool domain provision --use-fc2387 --realm=car.matthew.acca --domain=CAR --server-roles=dc --dns-backend=SWEB_INTERNAL --host-ip=172.20.0.1 --option=bind_interfaces=127.0.0.1 172.20.0.1 --option=bind_interfaces_only=yes --adminpass=Noss25*
```



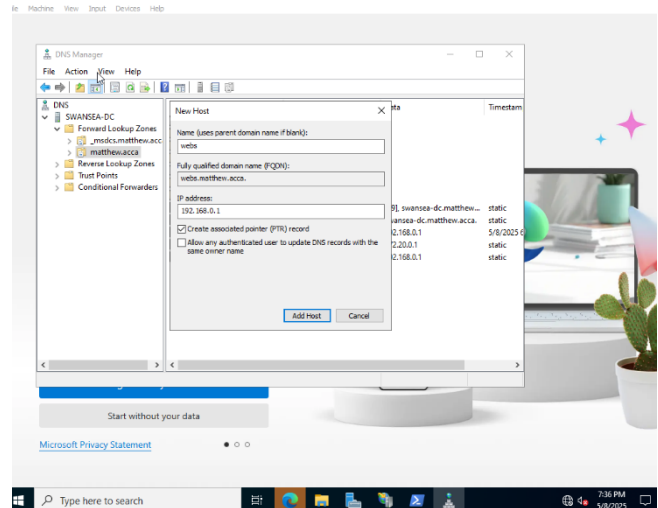
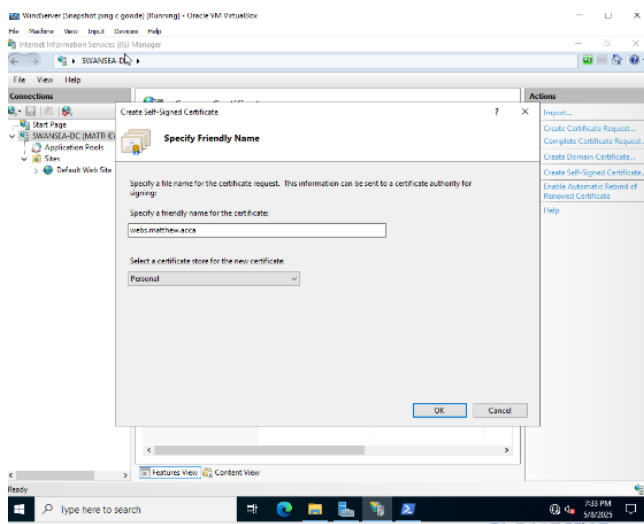
Back on Cardiff's LAN, we install Samba, make sure the child car has a provision domain – and here the sync cross-domain is successful



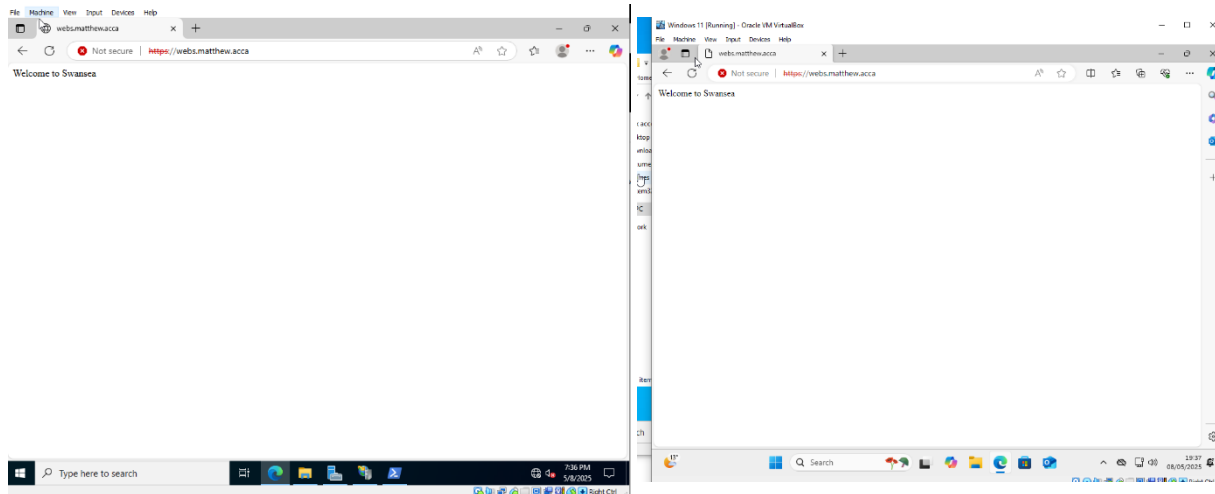
Here we establish trust between the two domains.



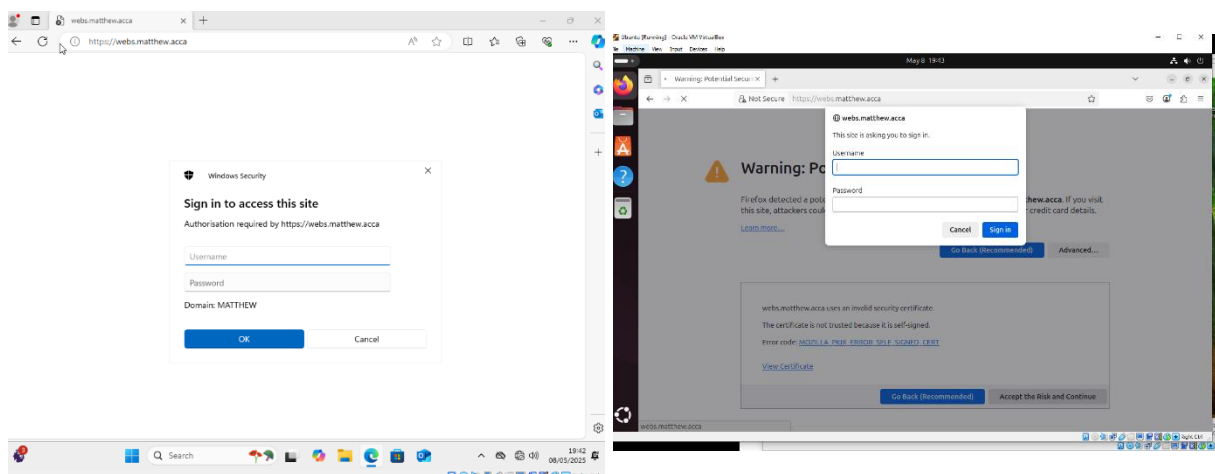
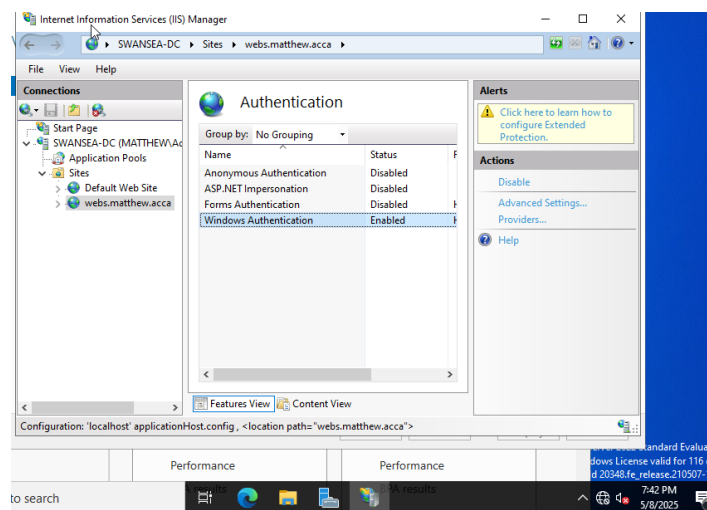
We create a new disk on VBOX, format it, and set the permissions for main and child domains, where we then test on both clients.



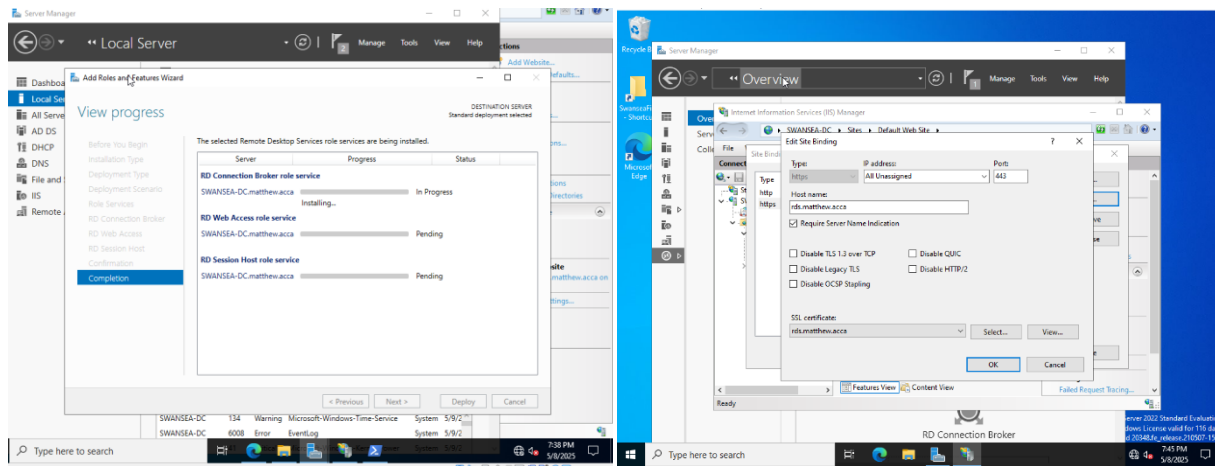
We create a website next, with its certificate attached (both for webs.mathew.acca and rds.mathew.acca)



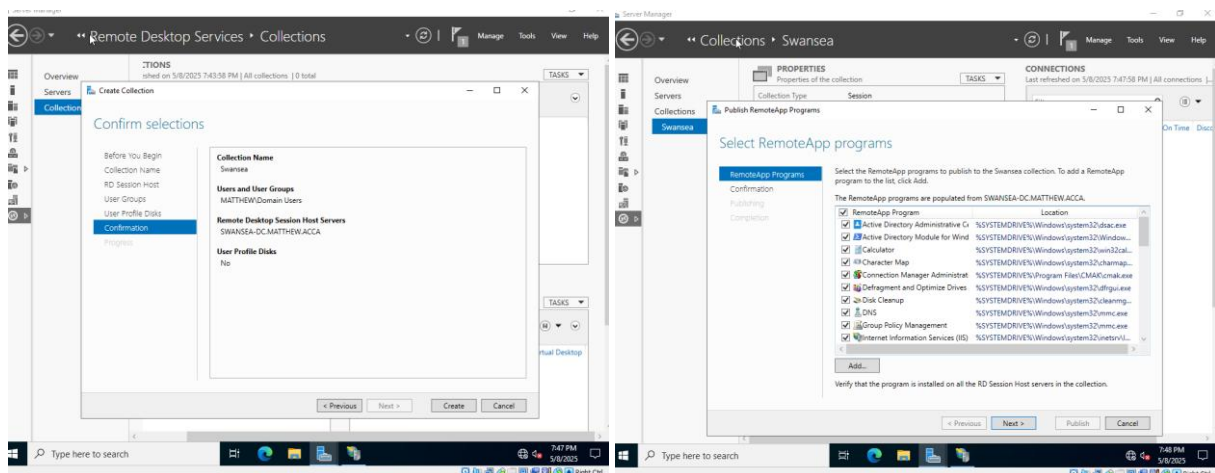
After creating a new scope for rds and webs which points to winserv, we run tests for the accessibility. Here are successful tests on both clients



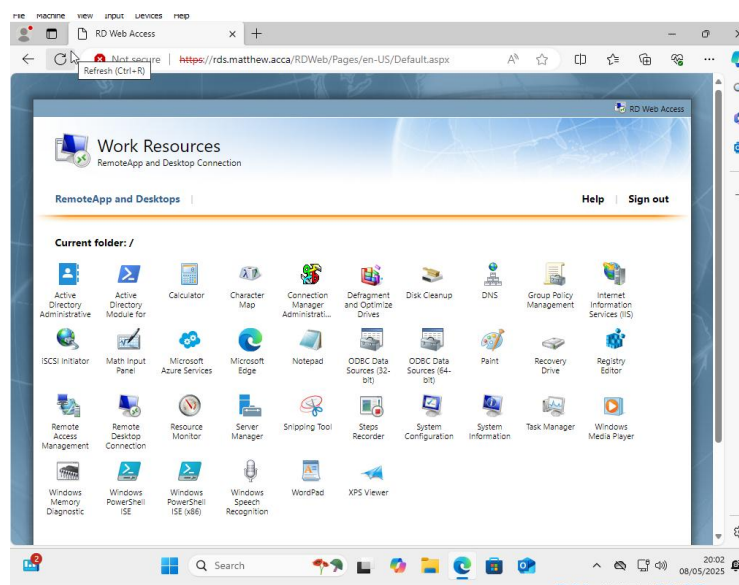
Here we add WinAuth. Successful tests on WinClient and Ubuntu.



Here we install RDS and configure the IIS binding for it.



Afer configuring the redirection to RDWeb directly when accessing the website, we create a collection and add apps to it.



Success!