University of Ain Temouchent Belhadj Bouchaib
Faculty of Science and Technology
Department of Mathematics and Computer Sciences
College year 2025-2026

Networks / NAT

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Objective

The goal of this lab is to learn how to configure Static NAT, Dynamic NAT, and PAT (also called NAT overload).

Exercise 1 (Static NAT)

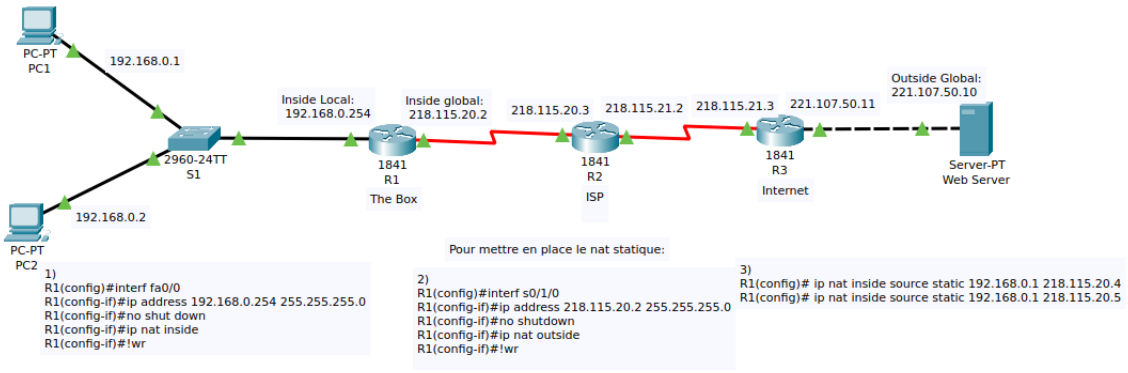

FIGURE 1 – Network topology.

1. Create the above network topology using Packet Tracer.
2. Start by configuring the basic settings (interface IPs, PC configurations, etc.).
3. Enter the commands related to the setup of static NAT given in steps 1), 2), and 3))
4. Set up static routing. (Be careful not to configure routing to/from networks with private addresses towards/from internet networks, or define ACLs to filter the routing of private addresses).
5. Test access to the Web server from PC1.
6. To verify the router's NAT configurations, use the command :
   — R1# show ip nat translation
7. To perform debugging, use the command :
   — R1# debug ip nat

Exercise 2 (Dynamic NAT)

— Implement dynamic NAT.

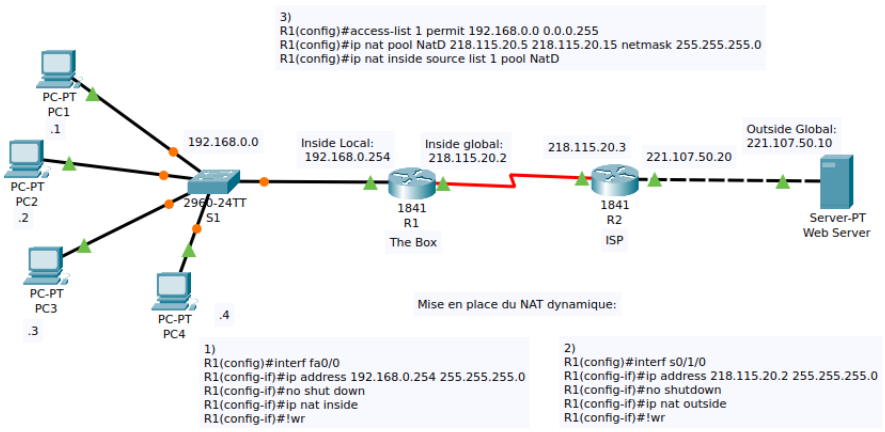

FIGURE 2 – Network topology.

Exercise 3 (PAT or NAT Overload)

— Implement NAT overload.
— Use the following command to view NAT statistics :
  — R1# show ip nat statistics

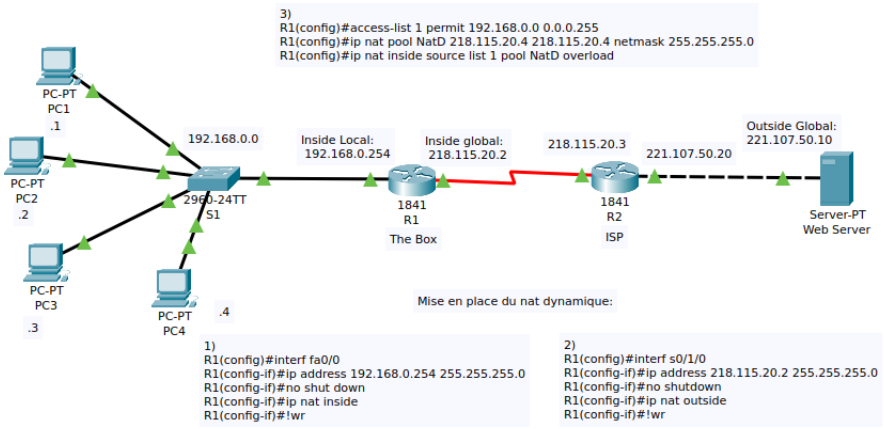

FIGURE 3 – Network topology.