



شبكات الحواسيب
Computer Networks

جامعة
المنارة

HAMARA UNIVERSITY

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LAB5 (Theoretical)

- Configuration of Network Address Translation (NAT) to translates private IP addresses into public IP addresses
 - Static NAT
 - An administrator needs to manually map each IP address individually
 - Typically helpful for a small network that contains the limited number of hosts
 - Dynamic NAT
 - For a large network or when a large number of users want to access external resources
 - Needing to apply an ACL to specify which users or networks are allowed to access external resources and need to be translated.
 - Needing to create a range of IP addresses (called pool) from which the NAT router will allocate the IP addresses to the internal users on the “first come first serve” basis

LAB5 (Theoretical)

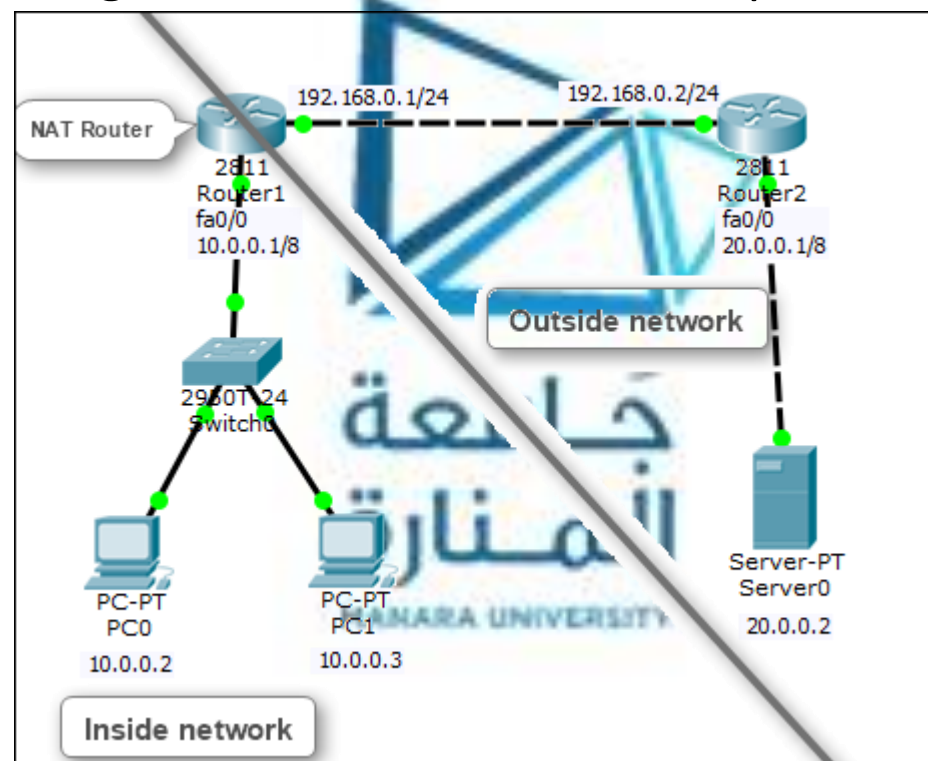
- Configuration of Network Address Translation (NAT) to translates private IP addresses into public IP addresses
 - Static NAT
 - To configure Static NAT, you need to perform the following steps:
 - Determining which interface is “inside” in the router
 - (config-if)#ip nat inside
 - Determining which interface is “outside” in the router
 - (config-if)#ip nat outside
 - Specifying the private IP addresses that need to be translated into the public IP addresses
 - (config)#ip nat inside source static private_IP_address public_IP_address
 - Verifying the static NAT configuration
 - #show ip nat translations

LAB5 (Theoretical)

- Configuration of Network Address Translation (NAT) to translates private IP addresses into public IP addresses
 - Dynamic NAT
 - To configure dynamic NAT, you need to perform the following steps:
 - Determining which interface is “inside” in the router
 - (config-if)#ip nat inside
 - Determining which interface is “outside” in the router
 - (config-if)#ip nat outside
 - Creating a pool and specify the ranges that the NAT router will use to allocate IP addresses
 - (config)#ip nat pool Pool_Name Start_IP End_IP netmask NW_Mask
 - Applying the created pool
 - (config)#ip nat inside source list ACLNr pool Pool_Name
 - Applying an ACL to allow the networks
 - (config)#access-list ACLNr permit Match_Addr Wildcard
 - Specifying the interface and the ACL direction
 - (config-if)#ip access-group ACLNr out

LAB5 (Practical)

- Training: Task is to configure a NAT Router to allow private NW to connect to public NW.



- Testing the NW by using ping and tracert command as well as suitable App.