[Updated Constantly]

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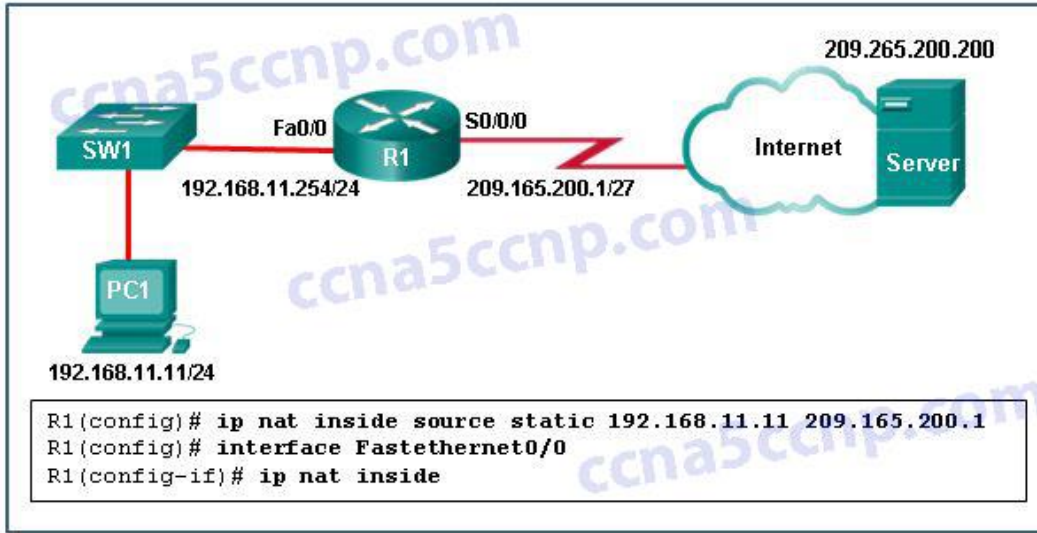## CCNA 2 (v5.1 + v6.0) Chapter 11 Exam Answers Full

How to find: Press "Ctrl + F" in the browser and fill in whatever wording is in the question to find that question/answer.
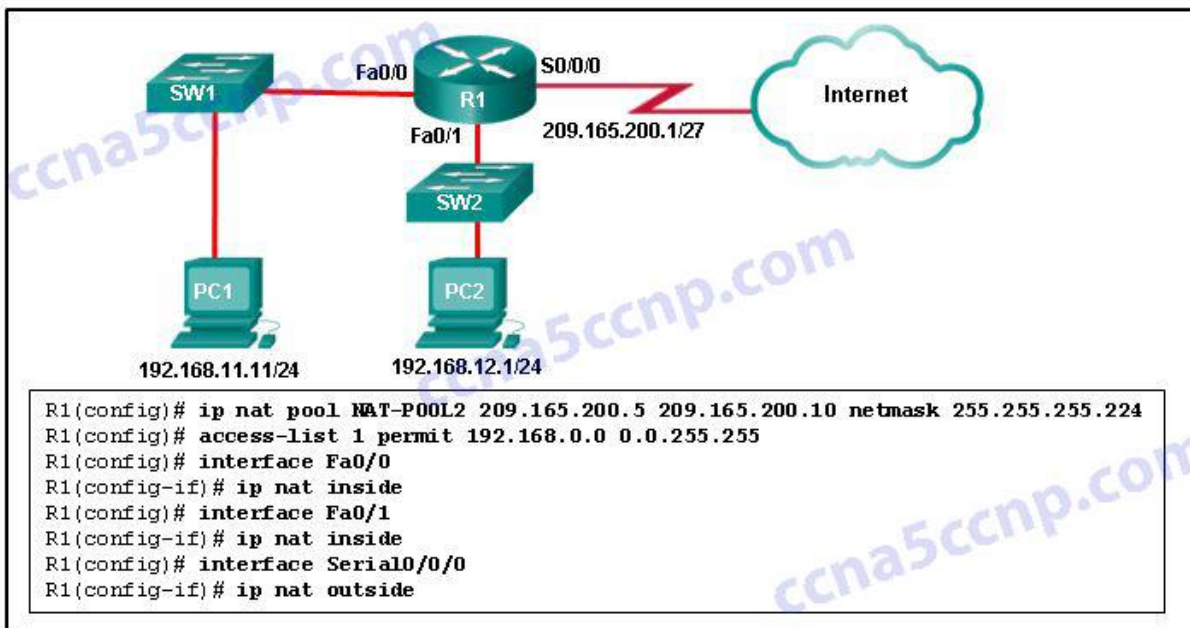
NOTE: If you have the new question on this test, please comment Question and Multiple-Choice list in form below this article. We will update answers for you in the shortest time. Thank you! We truly value your contribution to the website.

1. **Typically, which network device would be used to perform NAT for a corporate environment?**
   - DHCP server
   - host device
   - **router***
   - server
   - switch

2. **Which type of NAT maps a single inside local address to a single inside global address?**
   - dynamic
   - **static***
   - port address translation
   - overloading

3. **Several key servers in an organization must be directly accessible from the Internet. What addressing policy should be implemented for these servers?**
   - Use dynamic NAT to provide addresses for the servers.
   - Place all of the servers in their own Class C private subnet.
   - Use DHCP to assign addresses from the pool of Class B addresses.
   - **Assign static internal addresses and public external addresses to each of the servers.***

4. **What is a disadvantage of NAT?**
   - **There is no end-to-end addressing.***
   - The router does not need to alter the checksum of the IPv4 packets.
   - The internal hosts have to use a single public IPv4 address for external communication.
   - The costs of readdressing hosts can be significant for a publicly addressed network.

5. **Refer to the exhibit. What has to be done in order to complete the static NAT configuration on R1?**


```
R1(config)# ip nat inside source static 192.168.11.11 209.165.200.1
R1(config)# interface Fastethernet0/0
R1(config-if)# ip nat inside
```

- R1 should be configured with the command ip nat inside source static 209.165.200.1 192.168.11.11.
- R1 should be configured with the command ip nat inside source static 209.165.200.200 192.168.11.11.
- **Interface S0/0/0 should be configured with the command ip nat outside.***
- Interface Fa0/0 should be configured with the command no ip nat inside.

6. **Refer to the exhibit. R1 is configured for NAT as displayed. What is wrong with the configuration?**


```
R1(config)# ip nat pool NAT-POOL2 209.165.200.5 209.165.200.10 netmask 255.255.255.224
R1(config)# access-list 1 permit 192.168.0.0 0.0.255.255
R1(config)# interface Fa0/0
R1(config-if)# ip nat inside
R1(config)# interface Fa0/1
R1(config-if)# ip nat inside
R1(config)# interface Serial0/0/0
R1(config-if)# ip nat outside
```

- Access-list 1 is misconfigured.
- **NAT-POOL2 is not bound to ACL 1.***
- Interface Fa0/0 should be identified as an outside NAT interface.
- The NAT pool is incorrect.

7. **Which statement accurately describes dynamic NAT?**

- It always maps a private IP address to a public IP address.
- **It provides an automated mapping of inside local to inside global IP addresses.***
- It provides a mapping of internal host names to IP addresses.
- It dynamically provides IP addressing to internal hosts.

8. **A network administrator configures the border router with the command R1(config)# ip nat inside source list 4 pool corp. What is required to be configured in order for this particular command to be functional?**
   - **a NAT pool named corp that defines the starting and ending public IP addresses***
   - an access list named corp that defines the private addresses that are affected by NAT
   - an access list numbered 4 that defines the starting and ending public IP addresses
   - ip nat outside to be enabled on the interface that connects to the LAN affected by the NAT
   - a VLAN named corp to be enabled and active and routed by R1

9. **When dynamic NAT without overloading is being used, what happens if seven users attempt to access a public server on the Internet when only six addresses are available in the NAT pool?**
   - No users can access the server.
   - **The request to the server for the seventh user fails.***
   - All users can access the server.
   - The first user gets disconnected when the seventh user makes the request.

10. **Refer to the exhibit. What will be the effect of entering the command that is shown in the exhibit on R2 as part of the dynamic NAT configuration?**

    ```
    R2(config)# ip nat inside source list 1 pool NAT-POOL1
    ```

    - It will define a pool of addresses for translation.
    - It will identify an inside NAT interface.
    - **It will bind NAT-POOL1 with ACL 1.***
    - It will define the source ACL for the external interface.

11. **A network engineer has configured a router with the command ip nat inside source list 4 pool corp overload. Why did the engineer use the overload option?**
    - **The company has more private IP addresses than available public IP addresses.***
    - The company needs to have more public IP addresses available to be used on the Internet.
    - The company router must throttle or buffer traffic because the processing power of the router is not enough to handle the normal load of external-bound Internet traffic.
    - The company has a small number of servers that should be accessible by clients from the Internet.

12. **Refer to the exhibit. What is the purpose of the command marked with an arrow shown in the partial configuration output of a Cisco broadband router?**

```
interface FastEthernet 0/0
  ip address 10.10.10.1 255.255.255.0
  ip nat inside
  no cdp enable
  hold-queue 32 in
  hold-queue 100 out
!
interface FastEthernet 0/1
  ip address dhcp
  ip nat outside
  no cdp enable
!
ip classless
ip http server
!
ip nat inside source list 102 interface fastethernet 0/1 overload
access-list 102 permit ip  10.10.10.0  0.0.0.255  any   ◄
no cdp run
!
```

- **defines which addresses can be translated***
- defines which addresses are allowed into the router
- defines which addresses are assigned to a NAT pool
- defines which addresses are allowed out of the router

13. **What is the purpose of port forwarding?**
- **Port forwarding allows an external user to reach a service on a private IPv4 address that is located inside a LAN.***
- Port forwarding allows users to reach servers on the Internet that are not using standard port numbers.
- Port forwarding allows an internal user to reach a service on a public IPv4 address that is located outside a LAN.
- Port forwarding allows for translating inside local IP addresses to outside local addresses.

14. **What is a characteristic of unique local addresses?**
- **They allow sites to be combined without creating any address conflicts.***
- They are designed to improve the security of IPv6 networks.
- Their implementation depends on ISPs providing the service.
- They are defined in RFC 3927.

15. **Refer to the exhibit. The NAT configuration applied to the router is as follows:**

ERtr(config)# access-list 1 permit 10.0.0.0 0.255.255.255

ERtr(config)# ip nat pool corp 209.165.201.6 209.165.201.30 netmask 255.255.255.224

ERtr(config)# ip nat inside source list 1 pool corp overload

ERtr(config)# ip nat inside source static 10.10.10.55 209.165.201.4

ERtr(config)# interface gigabitethernet 0/0

ERtr(config-if)# ip nat inside

```
ERtr(config-if)# interface serial 0/0/0
```

```
ERtr(config-if)# ip nat outside
```

Based on the configuration and the output shown, what can be determined about the NAT status within the organization?

```
ERtr# show ip nat statistics
Total translations: 1 (1 static, 0 dynamic; 0 extended)
Outside interfaces:
  Serial0/0/0
Inside interfaces:
  GigabitEthernet0/0
Hits: 0  Misses: 0
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool corp refCount 0
 pool NAT-POOL1: netmask 255.255.255.224
             start 209.165.201.6 end 209.165.201.30
             type generic, total addresses 25, allocated 0 (0%), misses 0
```

- NAT is working.
- Static NAT is working, but dynamic NAT is not.
- Dynamic NAT is working, but static NAT is not.
- **Not enough information is given to determine if both static and dynamic NAT are working.***

16. **Using NAT terminology, what is the address of the source host on a private network as seen from inside the network?**
    - **inside local***
    - inside global
    - outside global
    - outside local

17. **What is the primary purpose of NAT?**
    - **conserve IPv4 addresses***
    - increase network security
    - allow peer-to-peer file sharing
    - enhance network performance

18. **What is an advantage of deploying IPv4 NAT technology for internal hosts in an organization?**
    - makes internal network access easy for outside hosts using UDP
    - **provides flexibility in designing the IPv4 addressing scheme***
    - increases the performance of packet transmission to the Internet
    - enables the easy deployment of applications that require end-to-end traceability

19. **Which configuration would be appropriate for a small business that has the public IP address of 209.165.200.225/30 assigned to the external interface on the router that connects to the Internet?**
    - **access-list 1 permit 10.0.0.0 0.255.255.255
      ip nat inside source list 1 interface serial 0/0/0 overload***

- access-list 1 permit 10.0.0.0 0.255.255.255
  ip nat pool comp 192.168.2.1 192.168.2.8 netmask 255.255.255.240
  ip nat inside source list 1 pool comp
- access-list 1 permit 10.0.0.0 0.255.255.255
  ip nat pool comp 192.168.2.1 192.168.2.8 netmask 255.255.255.240
  ip nat inside source list 1 pool comp overload
- access-list 1 permit 10.0.0.0 0.255.255.255
  ip nat pool comp 192.168.2.1 192.168.2.8 netmask 255.255.255.240
  ip nat inside source list 1 pool comp overload
  ip nat inside source static 10.0.0.5 209.165.200.225

20. **What are two of the required steps to configure PAT? (Choose two.)**
    - **Define a pool of global addresses to be used for overload translation.***
    - Create a standard access list to define applications that should be translated.
    - Define the range of source ports to be used.
    - **Identify the inside interface.***
    - Define the hello and interval timers to match the adjacent neighbor router.

21. **A network administrator is configuring a static NAT on the border router for a web server located in the DMZ network. The web server is configured to listen on TCP port 8080. The web server is paired with the internal IP address of 192.168.5.25 and the external IP address of 209.165.200.230. For easy access by hosts on the Internet, external users do not need to specify the port when visiting the web server. Which command will configure the static NAT?**
    - R1(config)# ip nat inside source static tcp 192.168.5.25 80 209.165.200.230 8080
    - **R1(config)# ip nat inside source static tcp 192.168.5.25 8080 209.165.200.230 80***
    - R1(config)# ip nat inside source static tcp 209.165.200.230 80 192.168.5.25 8080
    - R1(config)# ip nat inside source static tcp 209.165.200.230 8080 192.168.5.25 80

22. **Fill in the blank. Do not use abbreviations.**
    NAT overload is also known as **Port Address Translation**

23. **Match the steps with the actions that are involved when an internal host with IP address 192.168.10.10 attempts to send a packet to and external server at the IP address 209.165.200.254 across a router R1 that running dynamic NAT. (Not all options are used.)**
    - Question

- Answer

> R1 translates the IP address in the packets from 209.65.200.254 to 192.168.10.10.

> step 5

> step 2

> step 4

> step 1

> step 3

24. **Open the PT Activity. Perform the tasks in the activity instructions and then answer the question.**

What problem is causing PC-A to be unable to communicate with the Internet?

- The static route should not reference the interface, but the outside address instead.
- This router should be configured to use static NAT instead of PAT.
- The ip nat inside source command refers to the wrong interface.
- The access list used in the NAT process is referencing the wrong subnet.
- **The NAT interfaces are not correctly assigned.***

25. **What is the group of public IPv4 addresses used on a NAT-enabled router known as?**

- outside local addresses
- inside local addresses

- **inside global addresses***
- outside global addresses

26. **When NAT is employed in a small office, which address type is typically used for hosts on the local LAN?**
    - **private IP addresses***
    - global public IP addresses
    - Internet-routable addresses
    - both private and public IP addresses

27. **Which version of NAT allows many hosts inside a private network to simultaneously use a single inside global address for connecting to the Internet?**
    - **PAT***
    - static NAT
    - dynamic NAT
    - port forwarding

28. **Refer to the exhibit. Based on the output that is shown, what type of NAT has been implemented?**

```
R1# show ip nat translations
Pro Inside global      Inside local    Outside local      Outside global
tcp 209.165.200.225:1405 10.6.15.2:1405 209.165.202.141:80 209.165.202.141:80
tcp 209.165.200.225:1406 10.6.15.1:1406 198.51.100.3:80     198.51.100.3:80
```

- dynamic NAT with a pool of two public IP addresses
- **PAT using an external interface***
- static NAT with one entry
- static NAT with a NAT pool

29. **Match the steps with the actions that are involved when an internal host with IP address 192.168.10.10 attempts to send a packet to an external server at the IP address 209.165.200.254 across a router R1 that is running dynamic NAT. (Not all options are used.)**

Match the steps with the actions that are involved when an internal host with IP address 192.168.10.10 attempts to send a packet to an external server at the IP address 209.165.200.254 across a router R1 that is running dynamic NAT. (Not all options are used.)

step 1	R1 translates the IP address in the packets from 209.65.200.254 to 192.168.10.10.
step 2	R1 replaces the address 192.168.10.10 with a translated inside global address.
step 3	R1 checks the NAT configuration to determine if this packet should be translated.
step 4	R1 selects an available global address from the dynamic address pool.
step 5	The host sends packets that request a connection to the server at the address 209.165.200.254.
	If there is no translation entry for this IP address, R1 determines that the source address 192.168.10.10 must be translated.

Place the options in the following order:
– not scored –

step 5 => R1 replaces the address 192.168.10.10 with a translated inside global address.
step 2 => R1 checks the NAT configuration to determine if this packet should be translated.
step 4 => R1 selects an available global address from the dynamic address pool.
step 1 => The cost sends packets that request a connection to the server at the address 209.165.200.254
step 3 => If there is no translation entry for this IP address, R1 determines that the source address 192.168.10.10 must be translated.