Звіт

з лабораторної роботи

за темою: **"Налаштування NAT на Juniper SRX"**

з дисципліни «Кібербезпека комп'ютерних мереж»

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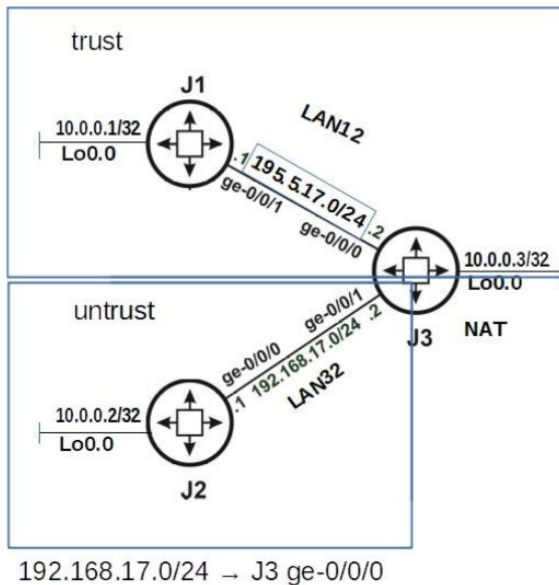
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ВИКОНАННЯ

Топологія

192.168.17.0/24 → J3 ge-0/0/0

Змінимо налаштування vSRX відповідно до схеми

```
root@J1# show interfaces ge-0/0/1 unit 0 family inet
address 192.168.16.1/24;

[edit]
```

```
root@J1# delete interfaces ge-0/0/1 unit 0 family inet address 192.168.16.1

[edit]
```

```
root@J1# set interfaces ge-0/0/1 unit 0 family inet address 195.5.17.1/24

[edit]
```

```
root@J3# show interfaces ge-0/0/0 unit 0 family inet
address 192.168.16.2/24;

[edit]
root@J3# delete interfaces ge-0/0/0 unit 0 family inet address 192.168.16.2

[edit]
root@J3# set interfaces ge-0/0/0 unit 0 family inet address 195.5.17.2/24

[edit]
root@J3# commit
commit complete

[edit]
```

Видалимо OSPF та поставимо дефолтні маршрути на J1, J2

```
[edit]
root@J1# delete protocols ospf
```

```
[edit]
root@J1# ...ing-options static route 192.168.17.0/24 next-hop 195.5.17.2

[edit]
root@J1# ...routing-options static route 10.0.0.2/32 next-hop 195.5.17.2

[edit]
```

```
root@J2# delete protocols ospf

[edit]
root@J2# ...tic route 195.5.17.0/24 next-hop 192.168.17.2

[edit]
root@J2# ...ing-options static route 10.0.0.1/32 next-hop 192.168.17.2

[edit]
```

```
root@J3# delete protocols ospf

[edit]
```

Додаємо пінг до host inbound traffic на J3

```
security-zone trust {
    interfaces {
        ge-0/0/1.0 {
            host-inbound-traffic {
                system-services {
                    ping;
                }
            }
        }
    }
}
security-zone untrust {
    interfaces {
        ge-0/0/0.0 {
            host-inbound-traffic {
                system-services {
                    ping;
                }
            }
        }
    }
}
```

ping J1 to J3

```
root@J1> ping 192.168.17.1
PING 192.168.17.1 (192.168.17.1): 56 data bytes
64 bytes from 192.168.17.1: icmp_seq=0 ttl=63 time=19.609 ms
64 bytes from 192.168.17.1: icmp_seq=1 ttl=63 time=15.228 ms
64 bytes from 192.168.17.1: icmp_seq=2 ttl=63 time=25.780 ms
64 bytes from 192.168.17.1: icmp_seq=3 ttl=63 time=20.618 ms
64 bytes from 192.168.17.1: icmp_seq=4 ttl=63 time=15.898 ms
64 bytes from 192.168.17.1: icmp_seq=5 ttl=63 time=15.258 ms
64 bytes from 192.168.17.1: icmp_seq=6 ttl=63 time=15.180 ms
64 bytes from 192.168.17.1: icmp_seq=7 ttl=63 time=20.419 ms
^C
--- 192.168.17.1 ping statistics ---
8 packets transmitted, 8 packets received, 0% packet loss
round-trip min/avg/max/stddev = 15.180/18.499/25.780/3.560 ms
```

ping J2 to J3

```
root@J2> ping 192.168.17.1
PING 192.168.17.1 (192.168.17.1): 56 data bytes
64 bytes from 192.168.17.1: icmp_seq=0 ttl=64 time=0.008 ms
64 bytes from 192.168.17.1: icmp_seq=1 ttl=64 time=0.137 ms
64 bytes from 192.168.17.1: icmp_seq=2 ttl=64 time=0.541 ms
64 bytes from 192.168.17.1: icmp_seq=3 ttl=64 time=0.138 ms
64 bytes from 192.168.17.1: icmp_seq=4 ttl=64 time=0.176 ms
64 bytes from 192.168.17.1: icmp_seq=5 ttl=64 time=0.102 ms
64 bytes from 192.168.17.1: icmp_seq=6 ttl=64 time=0.122 ms
^C
--- 192.168.17.1 ping statistics ---
7 packets transmitted, 7 packets received, 0% packet loss
round-trip min/avg/max/stddev = 0.008/0.175/0.541/0.157 ms

root@J2>
```

Переглянемо налаштування trust to zone untrust та навпаки

```
root@J3# show security policies from-zone trust to-zone untrust
policy default-permit {
    match {
        source-address any;
        destination-address any;
        application any;
    }
    then {
        permit;
    }
}

[edit]
```

```
root@J3# show security policies from-zone untrust to-zone trust
policy default-deny {
    match {
        source-address any;
        destination-address any;
        application any;
    }
    then {
        deny;
    }
}

[edit]
```

Згідно топології налаштуємо NAT

```
root@J3# set security nat source rule-set 1 from interface ge-0/0/1.0

[edit]
```

```
root@J3# set security nat source rule-set 1 to zone untrust

[edit]
```

```
root@J3# ... rule-set 1 rule 1A match source-address 192.168.17.0/24

[edit]
root@J3# ...urce rule-set 1 rule 1A then source-nat interface

[edit]
root@J3# commit
```

```
root@J3# show security nat
source {
    rule-set 1 {
        from interface ge-0/0/1.0;
        to zone untrust;
        rule 1A {
            match {
                source-address 192.168.17.0/24;
            }
            then {
                source-nat {
                    interface;
                }
            }
        }
    }
}
```

ping J2 to J1

```
root@J2# run ping 195.5.17.2
PING 195.5.17.2 (195.5.17.2): 56 data bytes
64 bytes from 195.5.17.2: icmp_seq=0 ttl=64 time=15.268 ms
64 bytes from 195.5.17.2: icmp_seq=1 ttl=64 time=10.309 ms
64 bytes from 195.5.17.2: icmp_seq=2 ttl=64 time=10.442 ms
64 bytes from 195.5.17.2: icmp_seq=3 ttl=64 time=6.009 ms
64 bytes from 195.5.17.2: icmp_seq=4 ttl=64 time=5.430 ms
64 bytes from 195.5.17.2: icmp_seq=5 ttl=64 time=10.829 ms
64 bytes from 195.5.17.2: icmp_seq=6 ttl=64 time=12.933 ms
64 bytes from 195.5.17.2: icmp_seq=7 ttl=64 time=5.510 ms
^C
--- 195.5.17.2 ping statistics ---
8 packets transmitted, 8 packets received, 0% packet loss
round-trip min/avg/max/stddev = 5.430/9.591/15.268/3.409 ms
```

Згідно NAT перетворення пакета має відображатися в таблиці

```
root@J3> show security nat source rule 1A

source NAT rule: 1A                      Rule-set: 1
  Rule-Id                     : 1
  Rule position               : 1
  From interface              : ge-0/0/1.0
  To zone                     : untrust
  Match
    Source addresses          : 192.168.17.0    - 192.168.17.255
  Action                        : interface
    Persistent NAT type         : N/A
    Persistent NAT mapping type : address-port-mapping
    Inactivity timeout          : 0
    Max session number          : 0
  Translation hits            : 8
    Successful sessions       : 8
    Failed sessions           : 0
  Number of sessions          : 0

root@J3>
```

Роботу завершено.