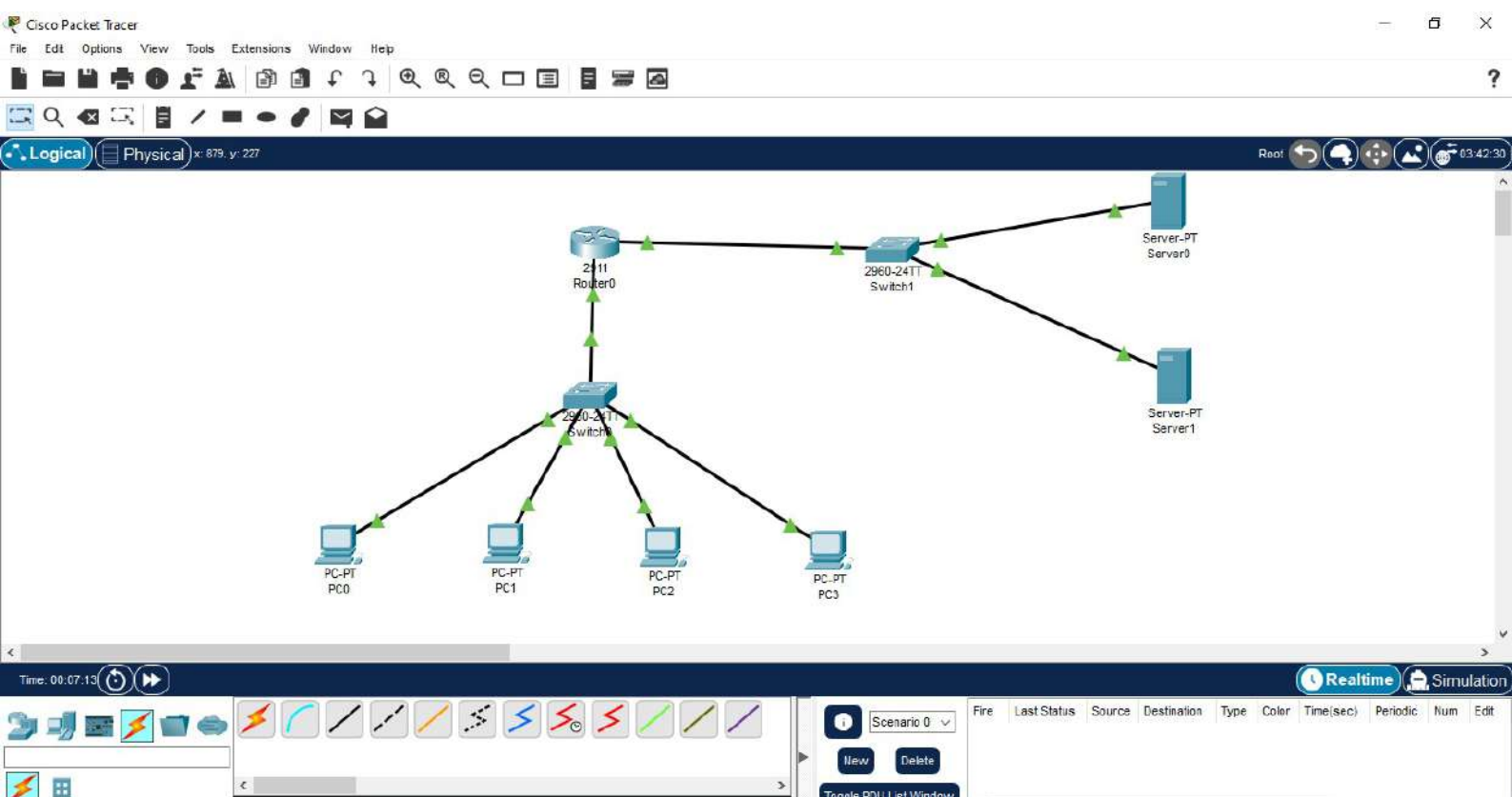# Implementation Access Control Lists to Secure Server Access in a Client-Server Network Topology

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Router(config-if)#ex
Router(config)#access-list ?
  <1-99>     IP standard access list
  <100-199>  IP extended access list
Router(config)#access-list 10 ?
  deny    Specify packets to reject
  permit  Specify packets to forward
  remark  Access list entry comment
Router(config)#access-list 10 permit ?
  A.B.C.D  Address to match
  any      Any source host
  host     A single host address
Router(config)#access-list 10 permit host ?
  A.B.C.D  Host address
Router(config)#access-list 10 permit host 192.168.1.2
Router(config)#access-list 10 permit host 192.168.1.3
Router(config)#access-list 10 permit host 192.168.1.4
Router(config)#access-list 10 deny any
Router(config)#do wr
Building configuration...
[OK]
Router(config)#
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface gig0/0
Router(config-if)#ip access-group 10 in
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#ex
Router(config)#
Router(config)#interface gig0/1
Router(config-if)#ip access-group 10 out
Router(config-if)#do wr
```

Copy   Paste

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Router(config)#access-list 10 permit host 192.168.1.4
Router(config)#access-list 10 deny any
Router(config)#do wr
Building configuration...
[OK]
Router(config)#
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface gig0/0
Router(config-if)#ip access-group 10 in
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#ex
Router(config)#
Router(config)#interface gig0/1
Router(config-if)#ip access-group 10 out
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#ex
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#
Router#sh access-lists
Standard IP access list 10
    10 permit host 192.168.1.2
    20 permit host 192.168.1.3
    30 permit host 192.168.1.4
    40 deny any

Router#
```

Copy   Paste

☐ Top

PC0   —   □   ✕

Physical   Config   Desktop   Programming   Attributes

Command Prompt   X

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time=9ms TTL=127
Reply from 192.168.2.3: bytes=32 time=1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 9ms, Average = 2ms

C:\>
```

☐ Top

PC1 — □ ×

Physical   Config   Desktop   Programming   Attributes

Command Prompt   X

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time=16ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 16ms, Average = 4ms

C:\>
```

☐ Top

PC2 — □ ✕

Physical | Config | Desktop | Programming | Attributes

Command Prompt ✕

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=6ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 6ms, Average = 1ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```