




Day 11 - INTRODUCTION TO FIREWALLS

Goal	Status
Understand basic firewall concept	
Practice simple ACL configuration	
See how firewalls control traffic	

What is a Firewall?

- A firewall controls incoming and outgoing network traffic.
- Works based on predefined security rules.

Types of Firewalls:

- **Packet Filtering Firewall:** Filters by IP, port, protocol.
- **Stateful Inspection Firewall:** Tracks active connections.
- **Application Layer Firewall:** Filters specific application traffic (e.g., HTTP, FTP).

Practical Task: Basic ACL Configuration (Cisco Packet Tracer)

Goal:

- Allow PC0 to ping the router.
- Block PC1 from pinging the router.

Window Help

PC0

Physical Config Desktop Programming Attributes

Command Prompt

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=403ms TTL=255
Reply from 192.168.1.1: bytes=32 time<lms TTL=255
Reply from 192.168.1.1: bytes=32 time<lms TTL=255
Reply from 192.168.1.1: bytes=32 time<lms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 403ms, Average = 100ms

C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<lms TTL=255
Reply from 192.168.1.1: bytes=32 time<lms TTL=255
Reply from 192.168.1.1: bytes=32 time<lms TTL=255
Reply from 192.168.1.1: bytes=32 time<lms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

```

Extensions Window Help

PC1

Physical Config Desktop Programming Attributes

Command Prompt

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>

```

Key Takeaways:

- Firewalls are essential for network security.
- ACLs act as basic firewalls by controlling who can communicate.
- Practice helps understand real-world network security configurations.