

What is network security

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Why network security?

Hyper-connected world

Business applications move to private and public clouds

The number of attacks on companies climbing ever higher

How does network security works?

Access Control

Threat Control

What are the key tools of network security?

Firewall

Load Balancer

IDS/IPS

NTA/NDR

Benefits of network security

Network security is key to an organization's ability to deliver products and services

Protecting apps and data on the network

Effective network security can improve network performance

Network Device

Layer 7 -> App Firewall

Layer 6

Layer 5

Layer 4

Layer 3 -> Router, Switch L3, Firewall

Layer 2 -> Switch

Layer 1 -> Hub

Router & Switch Security

Router

ACL

Secure Routing

Authentication

SSH Server

etc.

Switch

VLAN

Port Security

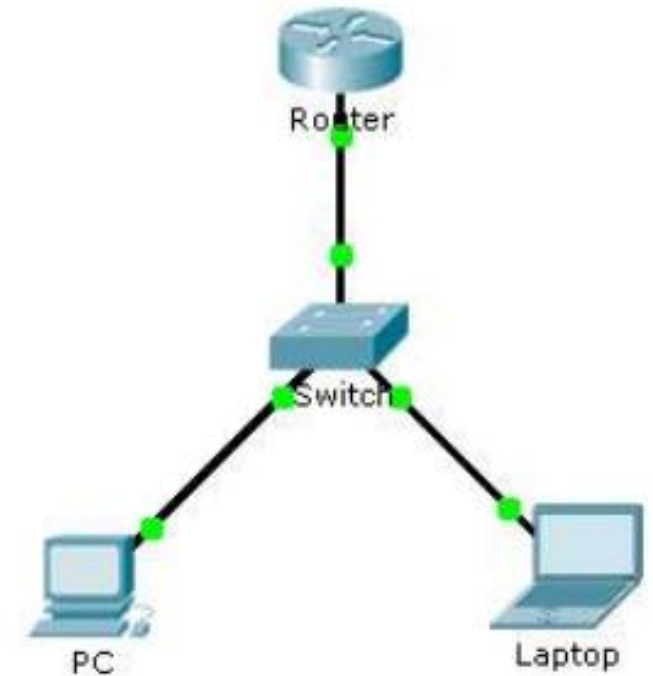
STP

802.1x

etc.

Configuring an ACL on VTY Lines

Telnet



Device	Interface	IP Address	Subnet Mask	Default Gateway
Router	F0/0	10.0.0.254	255.0.0.0	N/A
PC	NIC	10.0.0.1	255.0.0.0	10.0.0.254
Laptop	NIC	10.0.0.2	255.0.0.0	10.0.0.254

Configuring an ACL on VTY Lines

```
Router>en
Router#conf t

Config IP :

Router(config)#int g0/0
Router(config-if)#ip addr
10.0.0.254 255.0.0.0
Router(config-if)#no shut
```

```
Config Telnet :

Router(config)#enable password admin
Router(config)#line vty 0 15
Router(config-line)#password cisco
Router(config-line)#login

Config ACL :

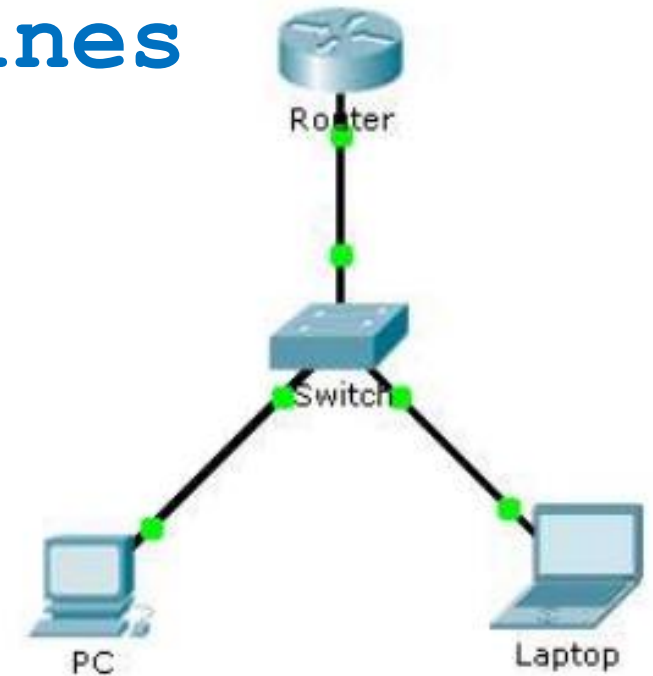
Router(config)#access-list 99 permit
host 10.0.0.1
Router(config)#line vty 0 15
Router(config-line)#access-class 99 in
```

Secure Shell (SSH)

<https://computernetworking747640215.wordpress.com/2018/07/05/secure-shell-ssh-configuration-on-a-switch-and-router-in-packet-tracer/>

Lab : SSH

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