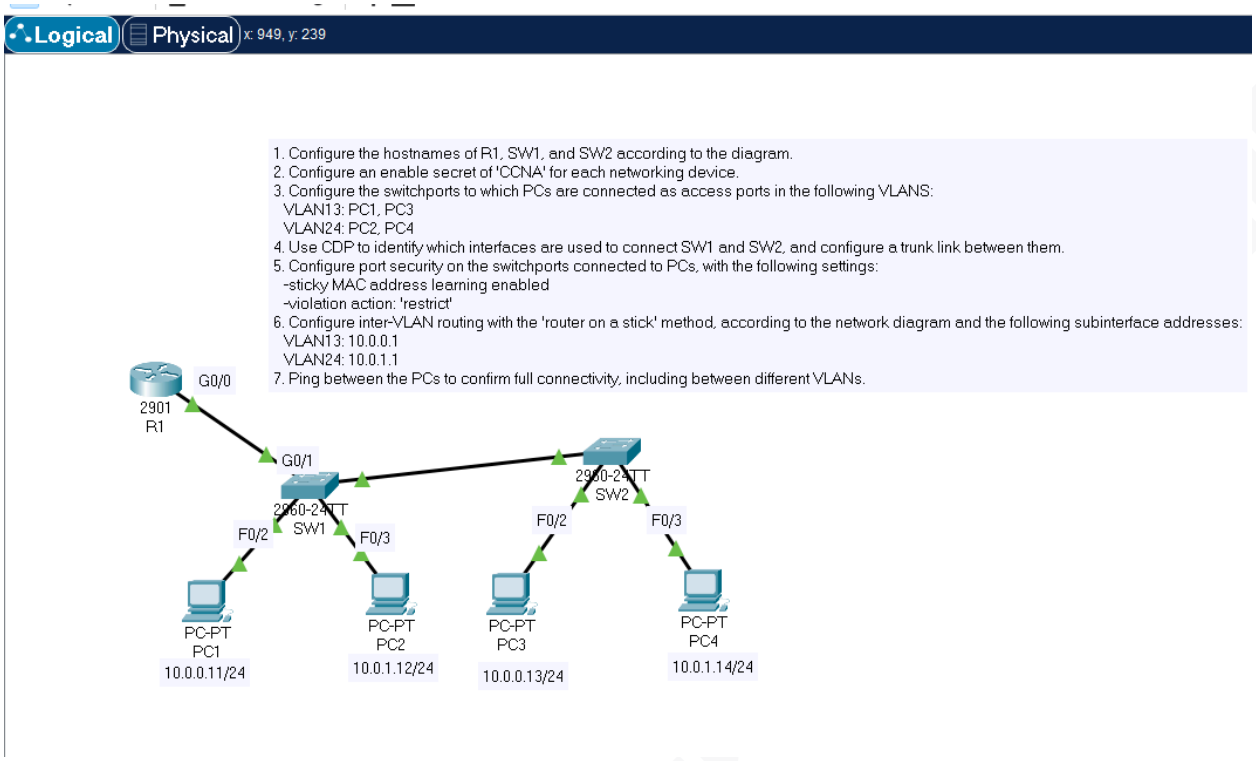
Configuring VLANs, Port Security, and Inter-VLAN Routing in Cisco Packet Tracer



Introduction

This document provides a comprehensive guide on configuring VLANs, implementing port security, and setting up inter-VLAN routing using Cisco Packet Tracer. This lab exercise is sourced from Jeremy's IT Lab and has been successfully configured and verified.

Network Configuration Overview

Tasks Accomplished

Configured Hostnames:
Set R1 , SW1 , and SW2 as per the network topology.

Enabled Secure Access:
Configured enable secret CCNA on all networking devices.

Assigned VLANs:
VLAN 13: PC1 , PC3

VLAN 24: PC2, PC4

Configured Trunk Link:
Used CDP to identify connections and enabled trunking between SW1 and SW2.

Implemented Port Security:
Enabled sticky MAC learningSet violation action to restrict.

Set Up Inter-VLAN Routing:
VLAN 13 Subinterface → 10.0.0.1
VLAN 24 Subinterface → 10.0.1.1

Tested Connectivity:
Verified successful communication between PCs, including across VLANs.

Configuration and Verification Commands:

VLAN Configuration
show vlan brief
Trunk Link Verification
show interfaces trunk

Port Security Validation
SW1#show port-security interface f0/2
SW1#show port-security interface f0/3
SW2#show port-security interface f0/2
SW2#show port-security interface f0/3

Inter-VLAN Routing Check
show ip interface brief

Connectivity Test
ping 10.0.0.1
ping 10.0.1.1
ping 10.0.0.13
ping 10.0.1.14

Conclusion
This documentation serves as a reference for configuring VLANs, port security, and inter- VLAN routing in a simulated Cisco network environment. Proper validation steps and verification commands have been included to ensure a seamless setup.

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Topology Source: Jeremy's IT Lab
Github: https://github.com/gairesantosh/Networking-Lab.git