Star Topology - IP Addressing Plan & Configuration Report

\*\*VLAN Assignment:\*\* 20 (Students)

\*\*IPv4 Address Range:\*\* 192.168.1.1-35/24

\*\*IPv6 Address Range:\*\* 2001:DB8:3C4D::1-12/64

\*\*Devices Used:\*\* Switch1, PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8

# IP Addressing Table

|  |  |  |
| --- | --- | --- |
| Device | IPv4 Address | IPv6 Address |
| Switch1 | 192.168.1.1 | 2001:DB8:3C4D::1 |
| PC1 | 192.168.1.2 | 2001:DB8:3C4D::2 |
| PC2 | 192.168.1.3 | 2001:DB8:3C4D::3 |
| PC3 | 192.168.1.4 | 2001:DB8:3C4D::4 |
| PC4 | 192.168.1.5 | 2001:DB8:3C4D::5 |
| PC5 | 192.168.1.6 | 2001:DB8:3C4D::6 |
| PC6 | 192.168.1.7 | 2001:DB8:3C4D::7 |
| PC7 | 192.168.1.8 | 2001:DB8:3C4D::8 |
| PC8 | 192.168.1.9 | 2001:DB8:3C4D::9 |

# Basic Configuration Commands

Switch(config)# vlan 20  
Switch(config-vlan)# name Students  
Switch(config-vlan)# exit  
Switch(config)# interface vlan 20  
Switch(config-if)# ip address 192.168.1.1 255.255.255.0  
Switch(config-if)# ipv6 address 2001:DB8:3C4D::1/64  
Switch(config-if)# no shutdown

# Summary

The Star Topology topology demonstrates structured VLAN segmentation and dual-stack (IPv4/IPv6) addressing. It provides an efficient network model for Students communication within the hybrid network setup. This setup ensures interconnectivity, scalability, and enhanced manageability.