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IMPLEMENTING INSTITUTE NETWORK USING CISCPACKET TRACER SIMULATOR

The design of computer network differs from one Institute to another. Installing networks in a university relies on the university's budget, which differs by institution and from country to country. The main goal of this project to present an enhanced network design for Institute campus. Also try to reduce the network devices and reduce network cost.

Objectives

The main objective of the proposed network is to update the existing network and also enhance its capabilities and increase the flexibility of the network which will eventually provide good security.

Network Requirements

- 1: The new system should be able to reduce internet downtime.
- 2: Network will be scalable.
- 3: The system should support remote access.
- 4: Should comprise of data centers with necessary security features and support.

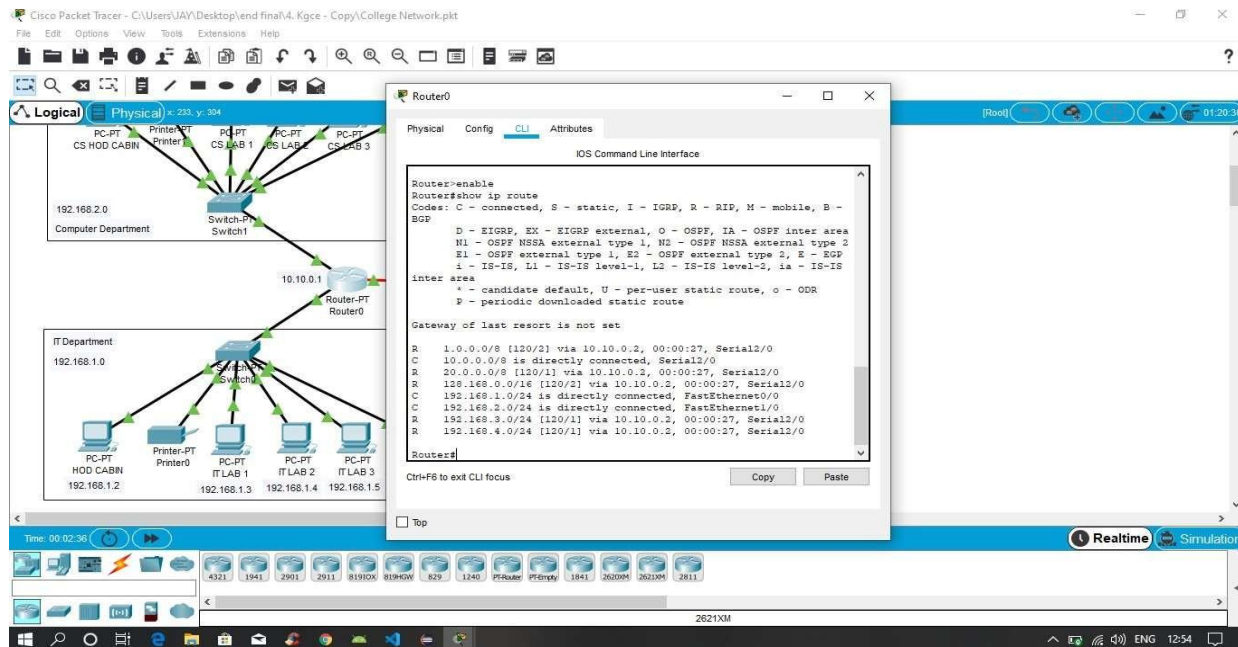
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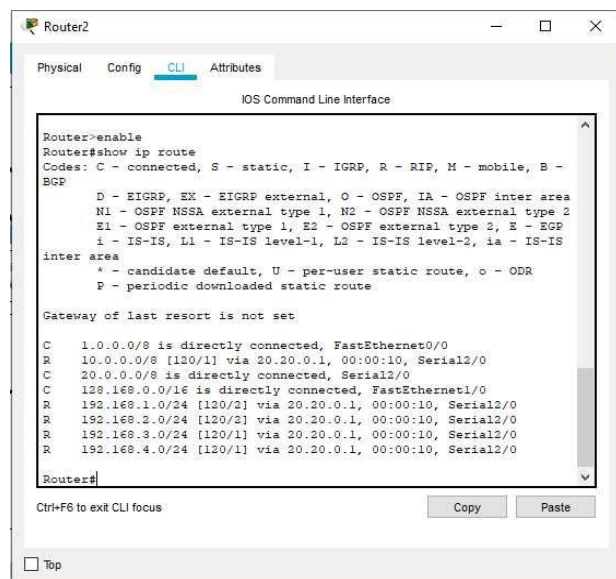
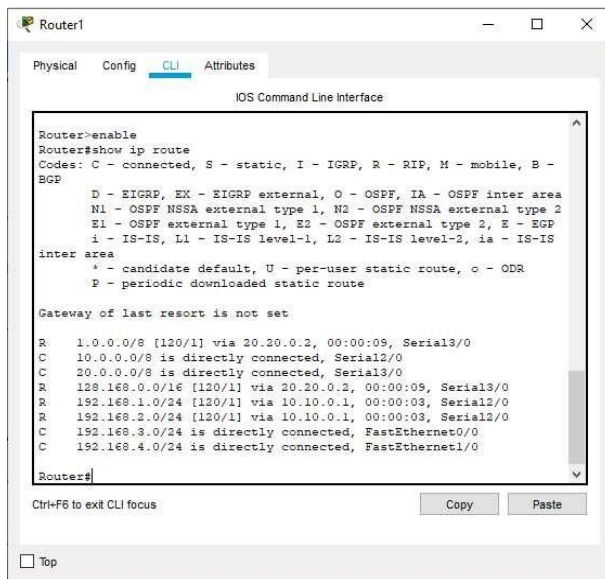
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Routing Protocol Plan

Routing Information Protocol (RIP) is a dynamic routing protocol which uses hop count as a routing metric to find the best path between the source and the destination network. It is a distancevector routing protocol which has AD value 120 and works on the application layer of OSI model.



Routing Protocol Plan for Router0

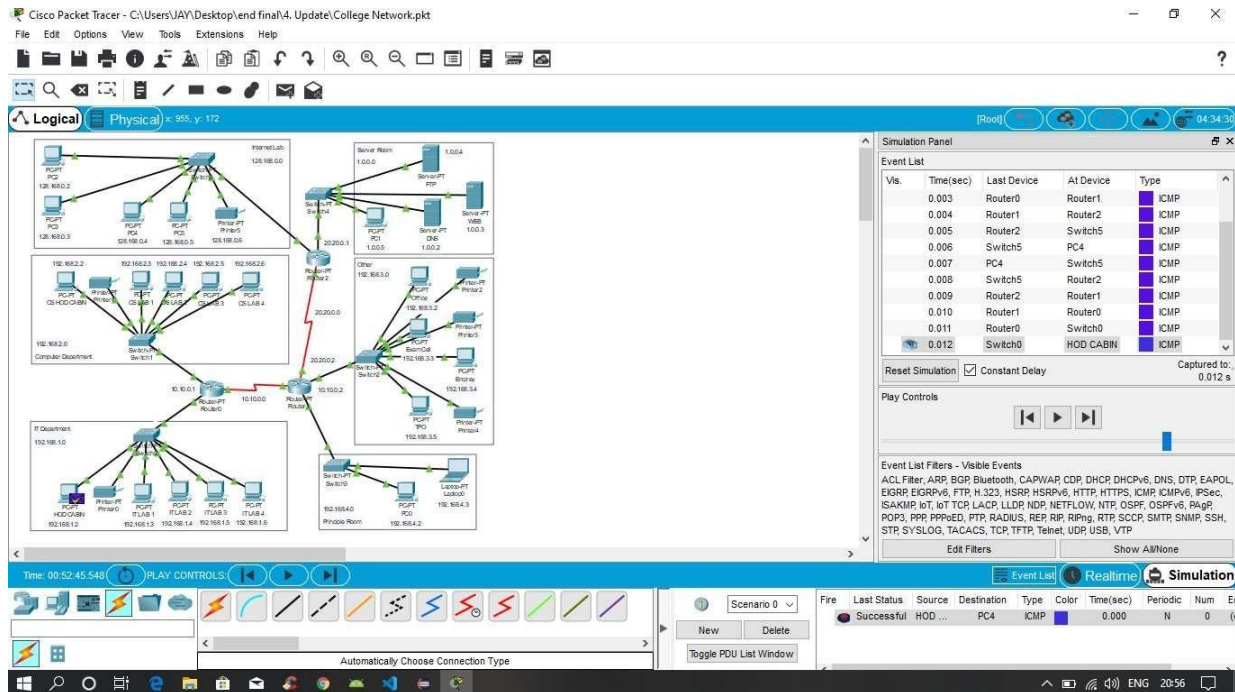


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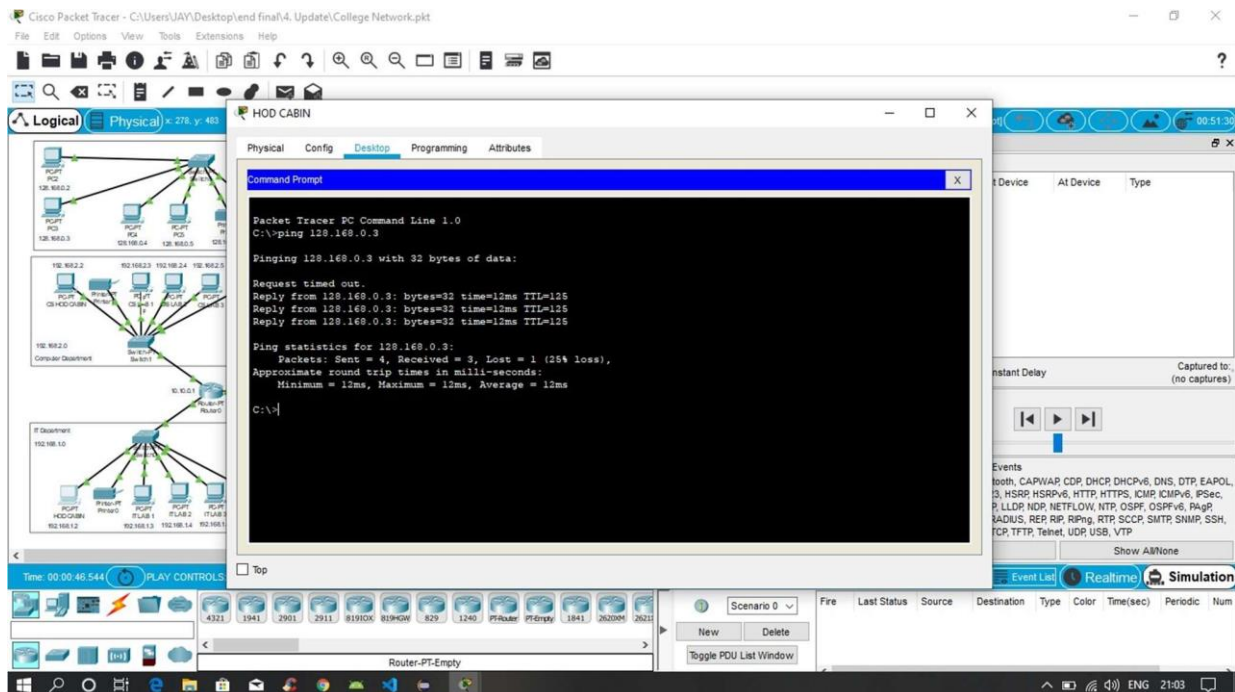
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Network Design



The prototype of the proposed network is implemented on cisco packet tracer



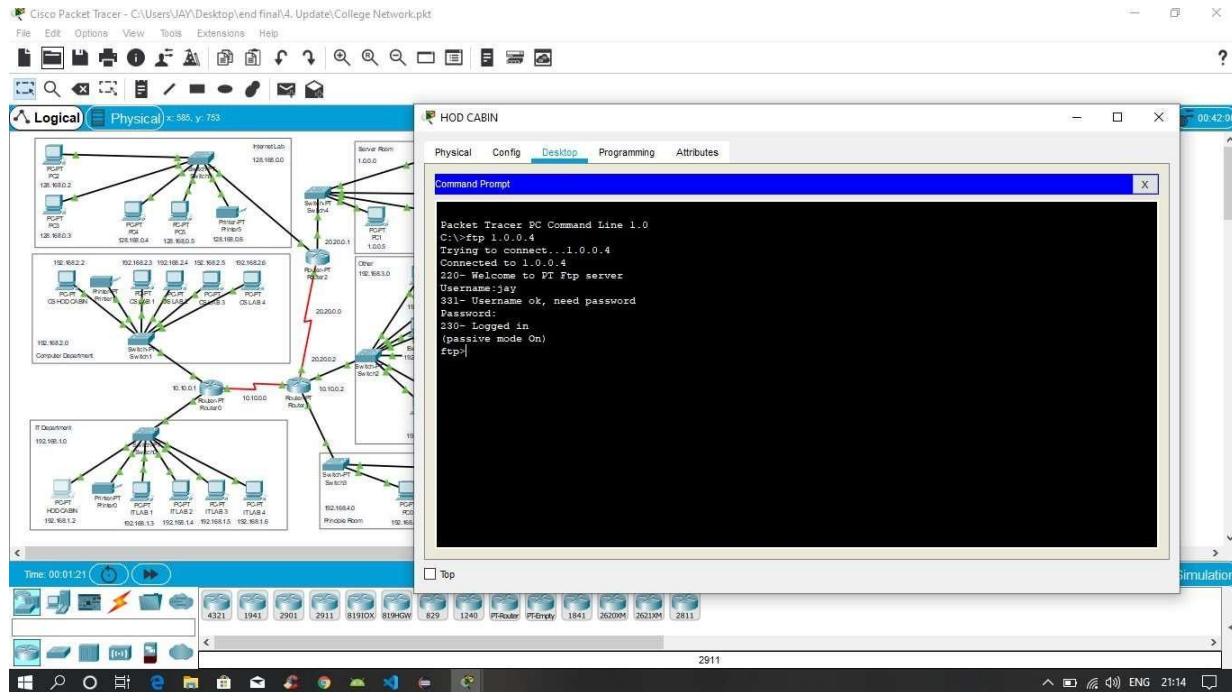
Testing VLAN communications from HOD Cabin to Internet Lab

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Testing FTP Server

Summary

The installed equipment allowed to organize high-speed wired and wireless Internet access throughout the whole complex of institute as well as providing transfer of all types of data throughout the single optimized network.

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References

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- 2) Roberto Minerva AbiyBiru, "Towards a Definition of the Internet of Things" IEEE IOT Initiative white paper.
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- 4) Qin, X. U. E. "Simulation Experimental Teaching of Computer Network Based on Packet Tracer [J]." Research and Exploration in Laboratory 2 (2010): 57-59.