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Institute of Computer Technology
B. Tech Computer Science and Engineering

Sub:CN
Practical 1

Aim: To verify the role of Address Resolution Protocol (ARP) in a network of an organization.

Scenario:

An organization named Green Tech Solution contains 2 departments: Production and Sales in the same premises. Each department has 3 users. Departments are connected with each other using switches. Report the changes in ARP table when any user from production department communicates with any user of sales department.

Note:

Make sure last two digits of your enrollment numbers appears in network IP address that must be visible in snapshot of the cisco packet tracer. I.e. 192. YY . XX .1 (YY indicates batch number in two digit. XX indicates last two digits of your enrollment no.)

Task 1:

To compare working of HUB and SWITCH

ANSWER:

HUB	SWITCH
Physical Layer (Layer 1)	Data Link Layer (Layer 2)
Single collision domain	Each port has its own collision domain

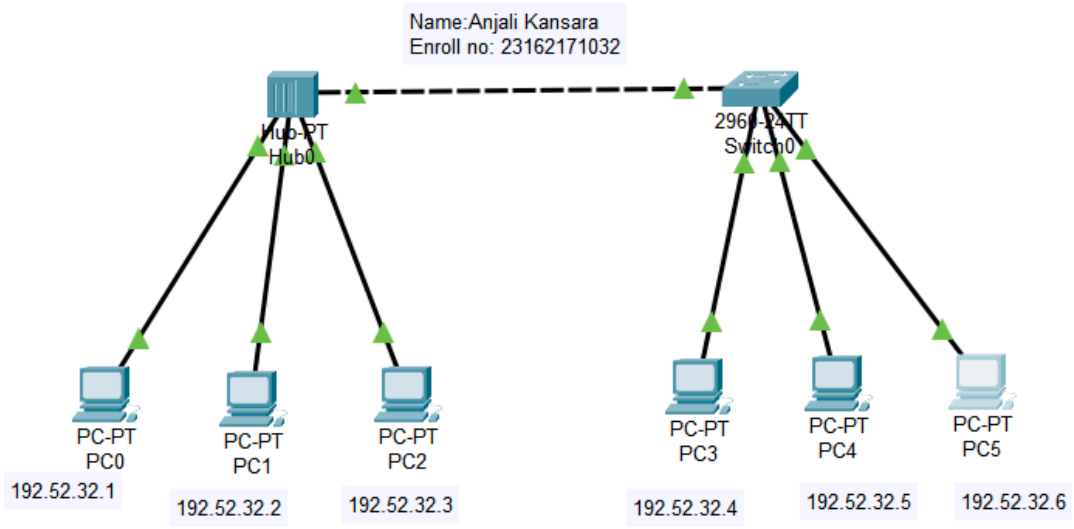
Cheaper cost	Slightly more expensive
Low Data Security	Better Data Security
Broadcasts data to all ports	Forwards data only to the specific destination port
Uses for Small/simple networks	Use for Modern networks (home, office, enterprise)

Task 2:

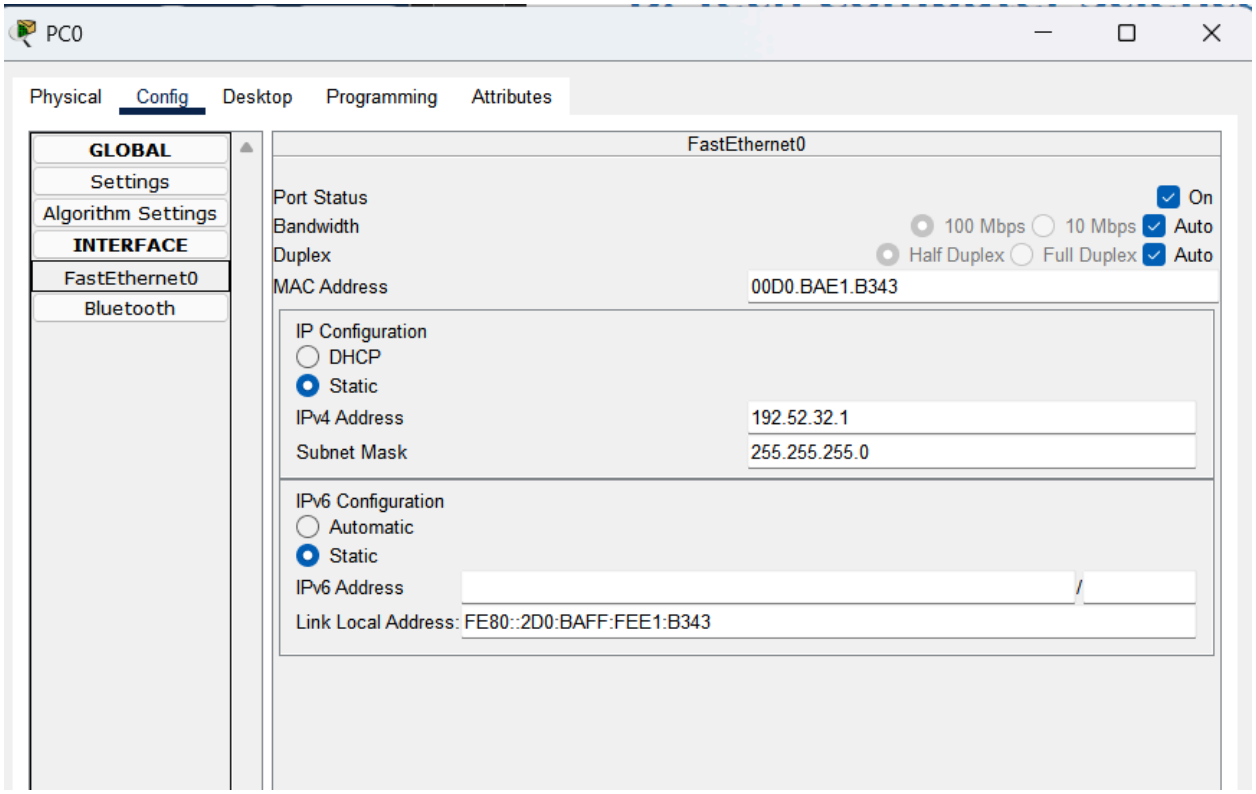
To verify the role of Address Resolution Protocol (ARP) in a network of an organization.

Requirement Submission:

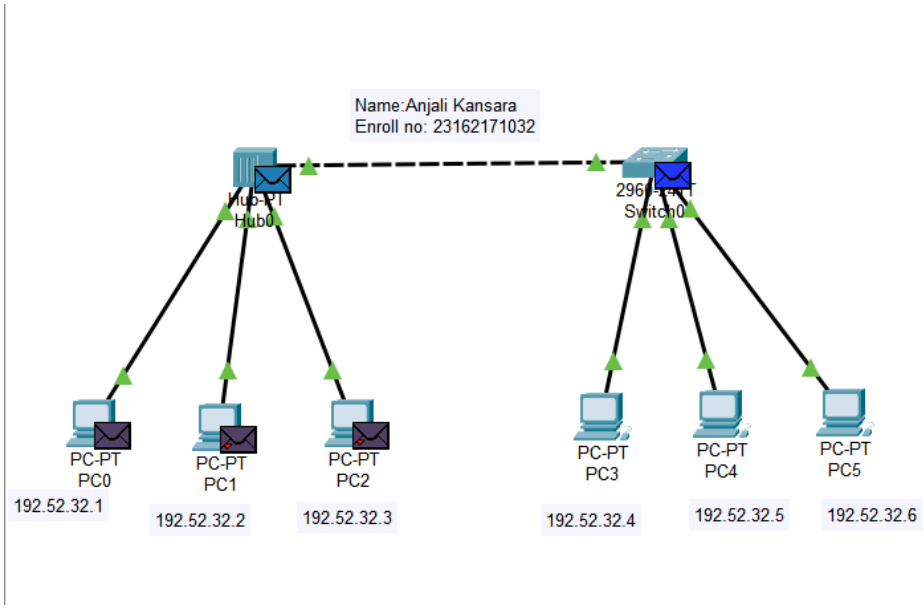
• Network image

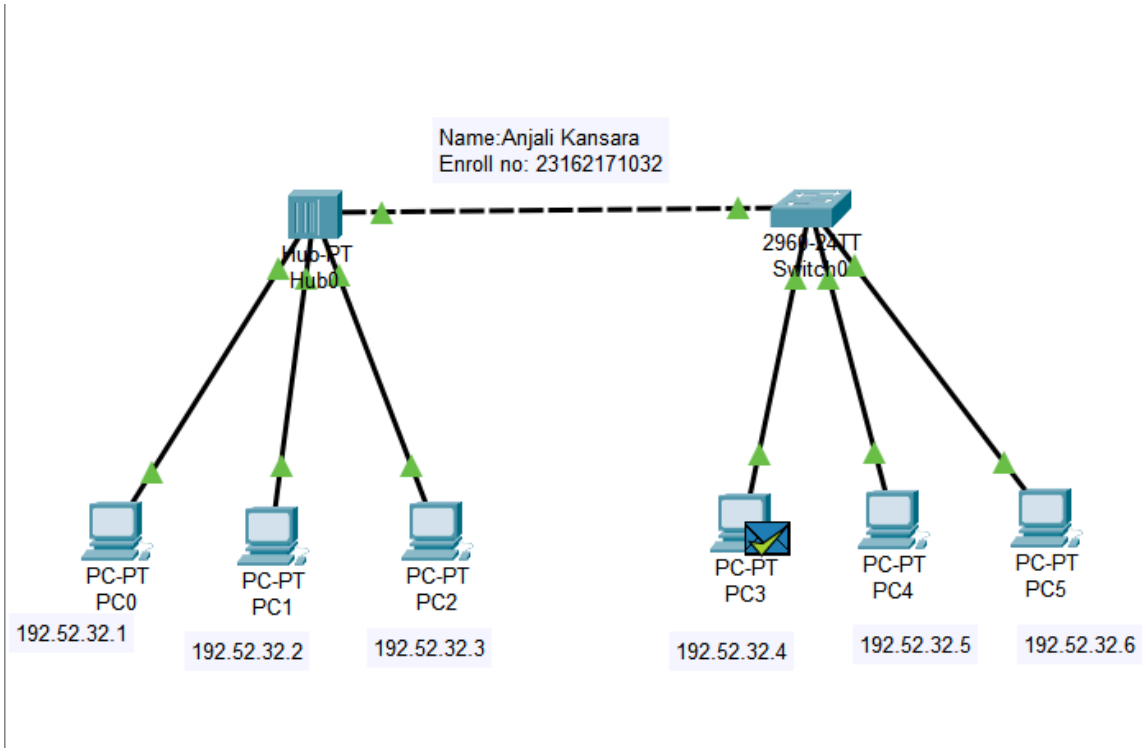


• PC IP address

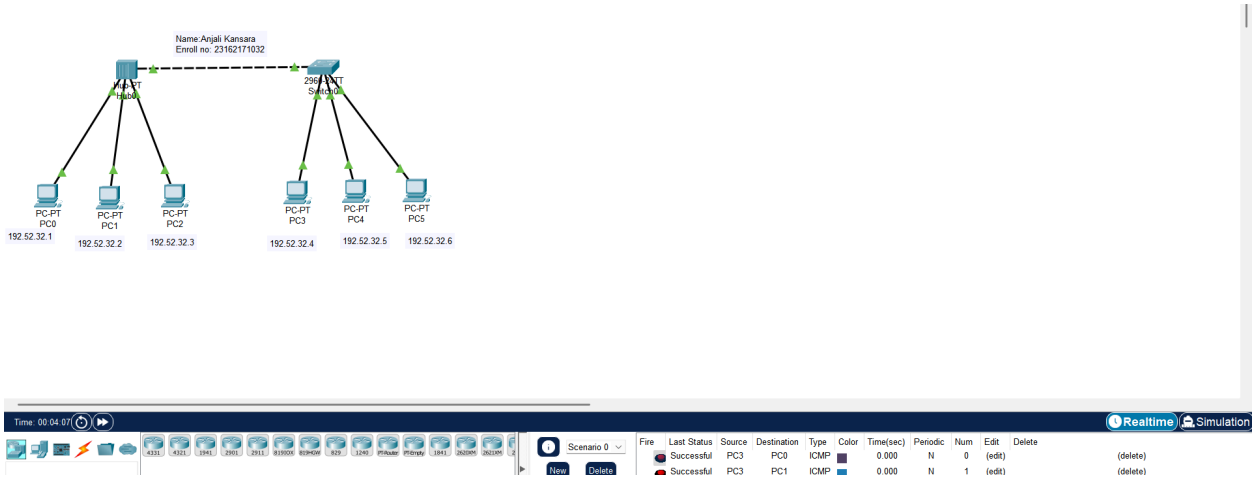


• Broadcasting

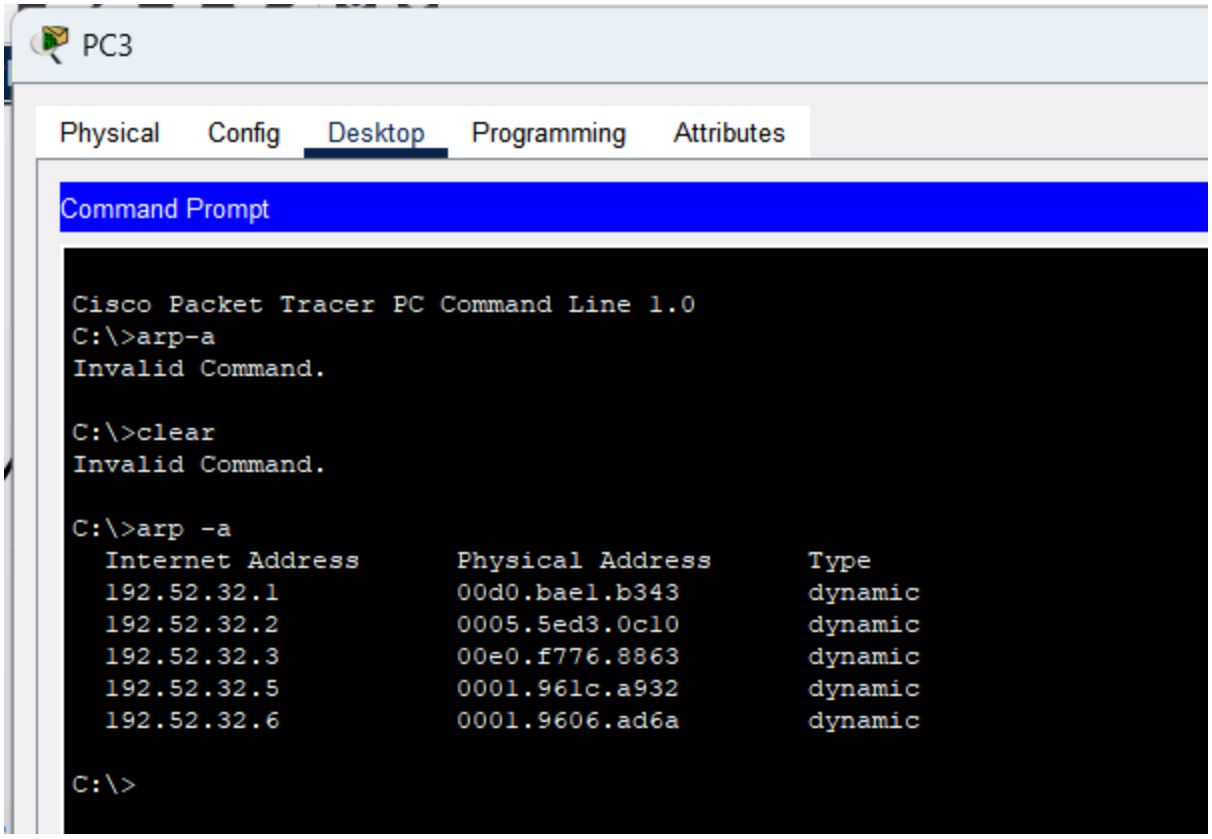




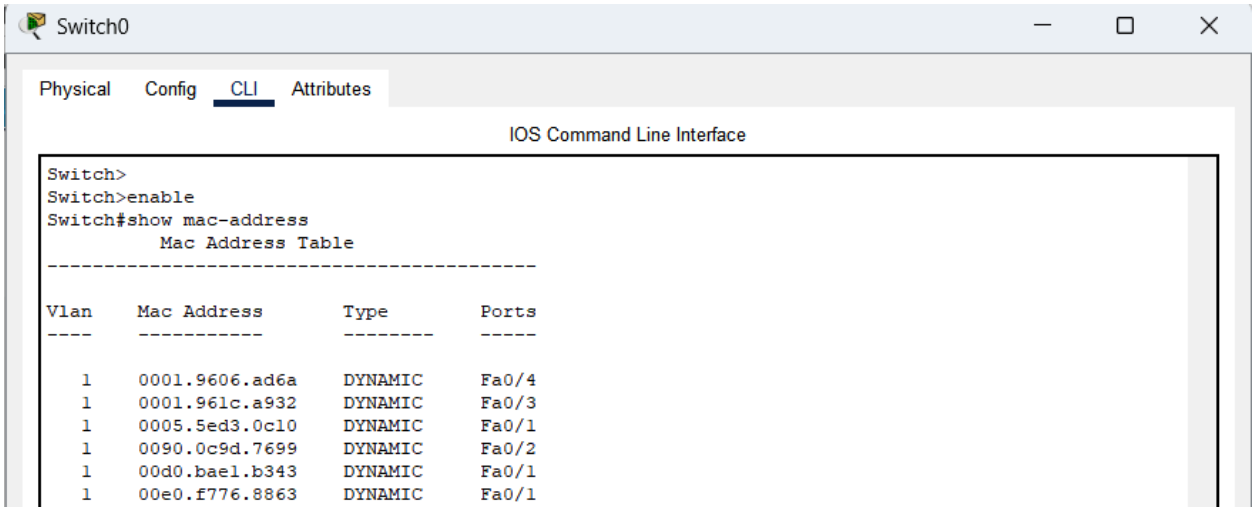
• Packet status (Successful)



• ARP table in PC



• MAC table in switch



Conclusion:

In this practical we learn how ARP maps IP to MAC addresses for communication and how switches improve network efficiency compared to hubs.