INSTITUTE OF COMPUTER TECHNOLOGY

B. TECH COMPUTER SCIENCE AND ENGINEERING

Subject: Computer Networks[CN]

Name : Archita Gahoi

Enrollment_No. : 23162171002

SEM : 5

Class : A

Batch : 52 (CS)

Practical 4

Aim: To implement access control list (ACL) in network of an organization containing different departments.

Scenario:

There is an organization of the University having 3 different departments University, ICT and DCS. IPv4 addressing scheme is used for assigning the IP address to the device as shown in Table1. Each department has multiple employees, which have specific rights to communicate within the network.

The details of the rights are as mentioned below:

Access Rights:

- University can contact all employees.
- Only Principal can contact University office.
- All Principals should contact each other
- All head of departments can contact each other

Configure Access Control List (ACL) at each router according to the specified access rights.

Procedure:

1) Create network as given below

2) Configure IP address (All Devices, Routers)

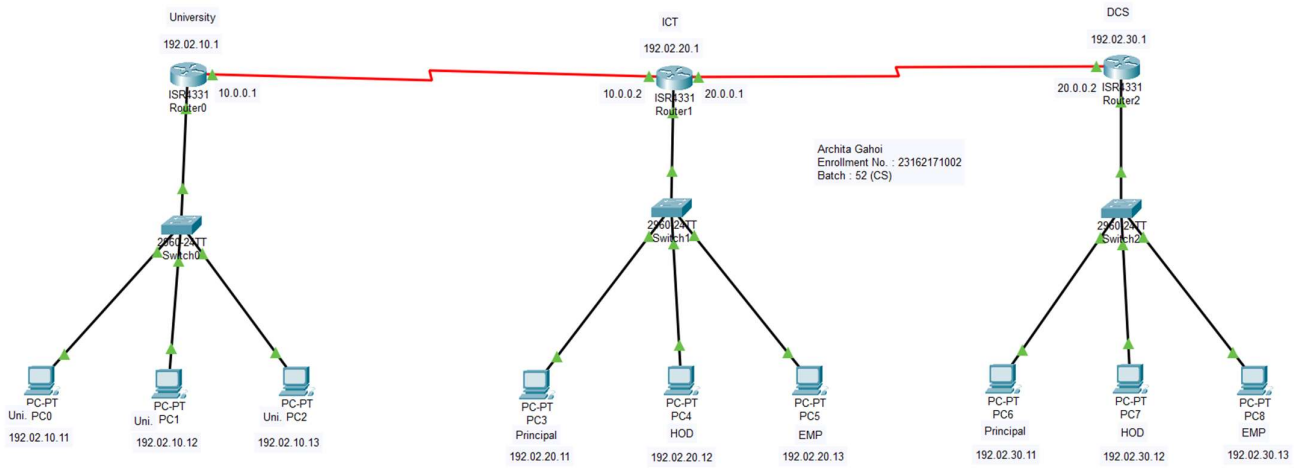
3) Configure dynamic routing table (RIP in routers)

4) Configure ACL on Router0

5) Configure ACL on Router1

6) Configure ACL on Router2

⇨ Main Circuit

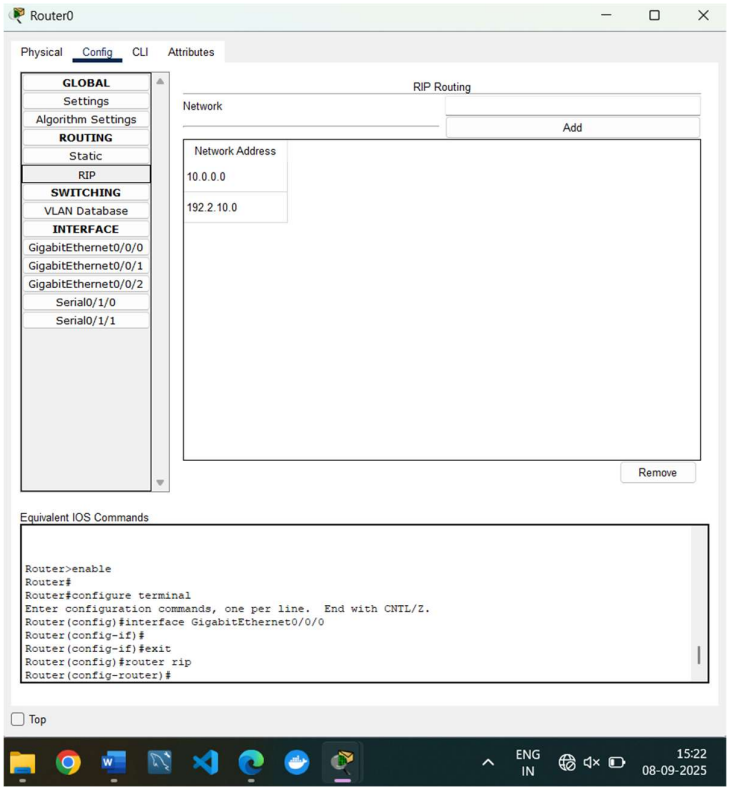


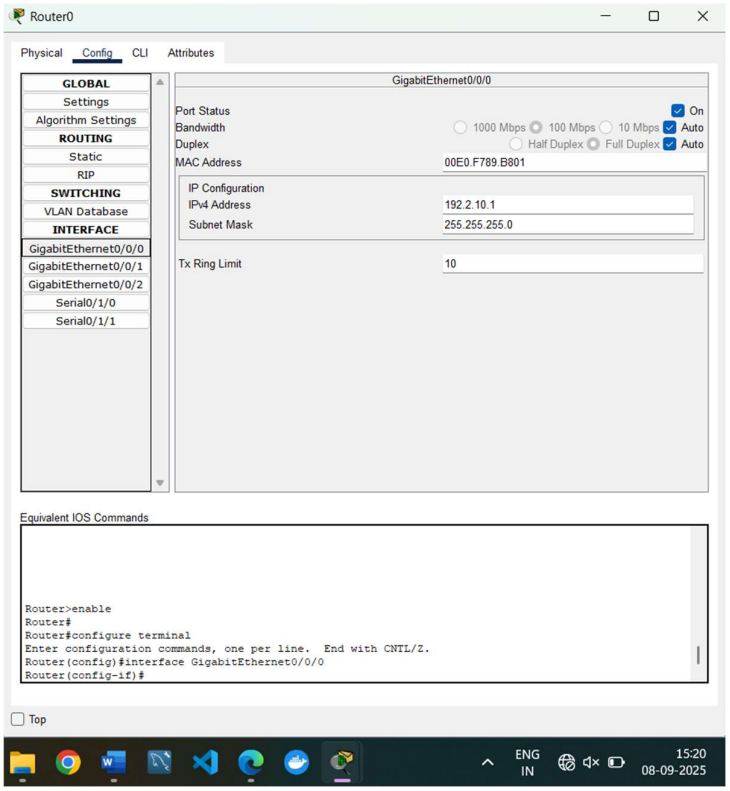
Configurations:

IP Address:

⇨ Routers

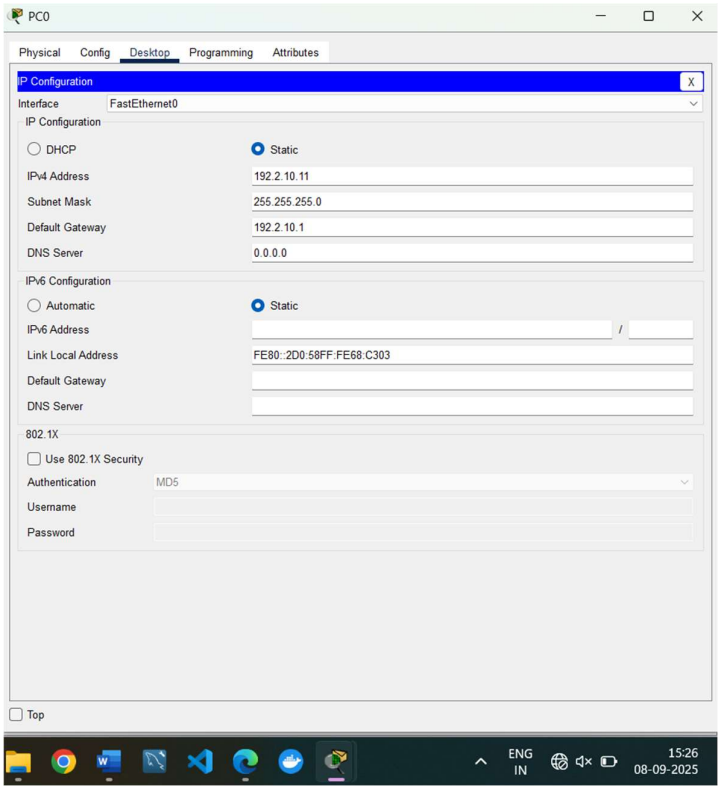
Router 0



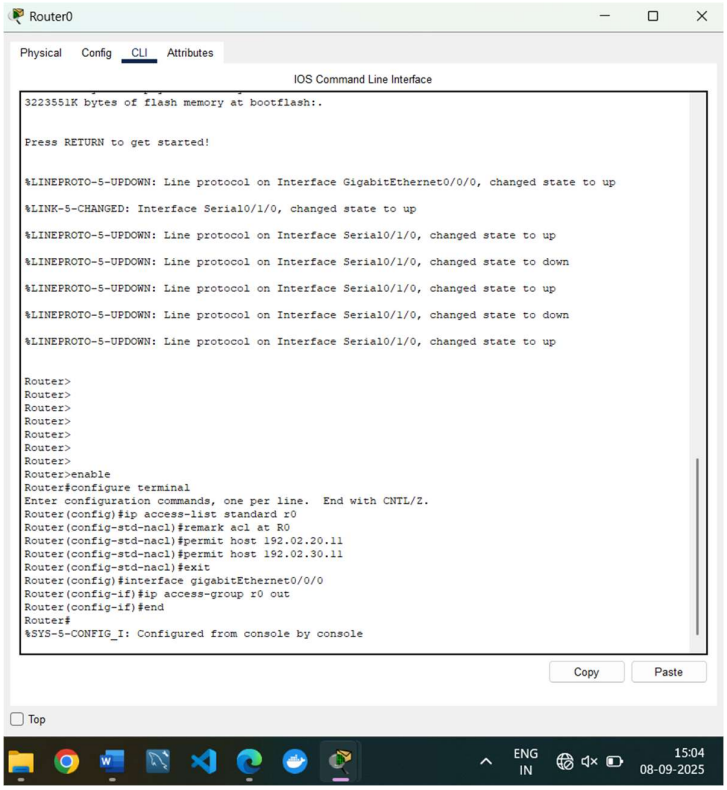


⇨ PCS

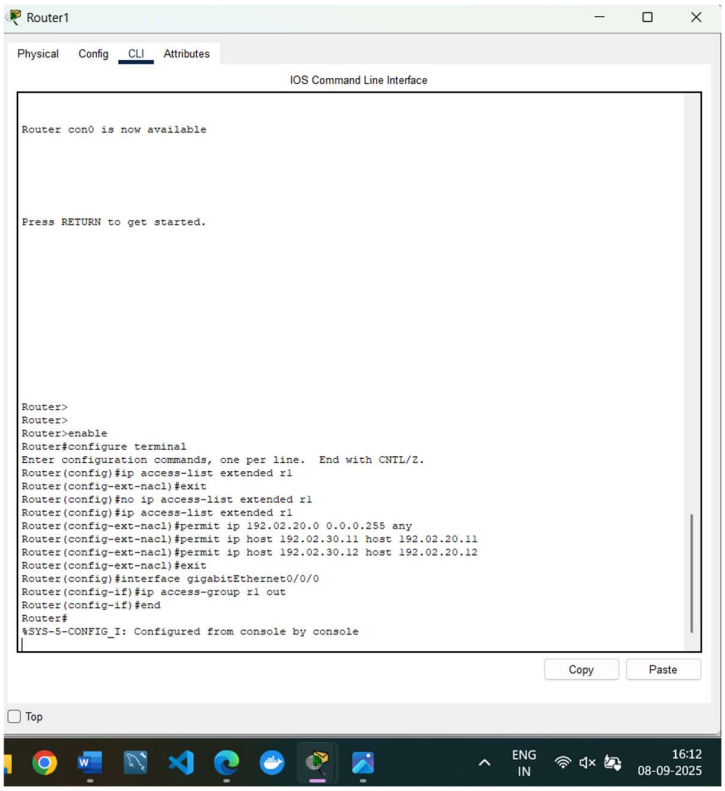
PC0



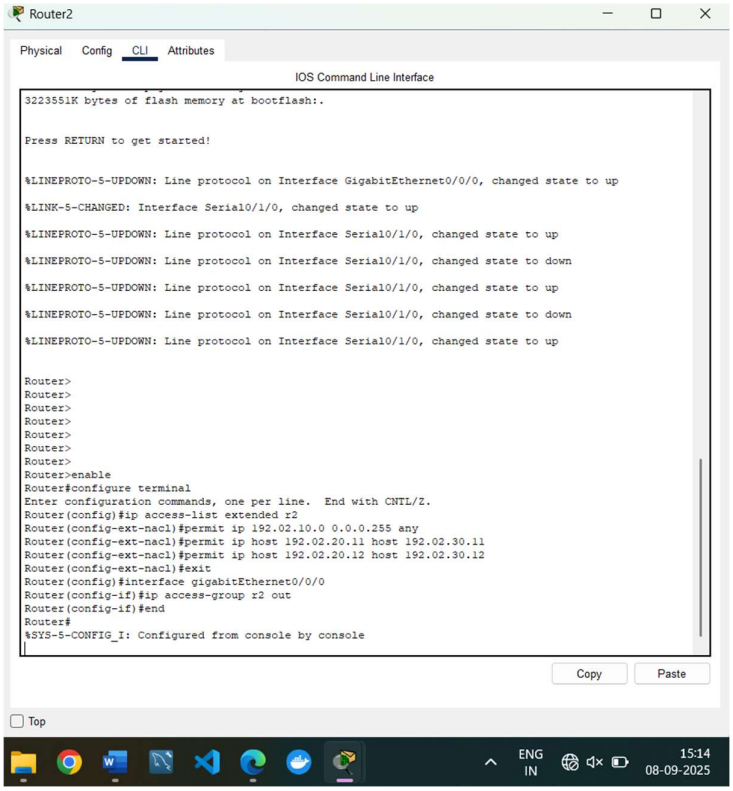
⇨ ACL on Router0



⇨ ACL on Router1



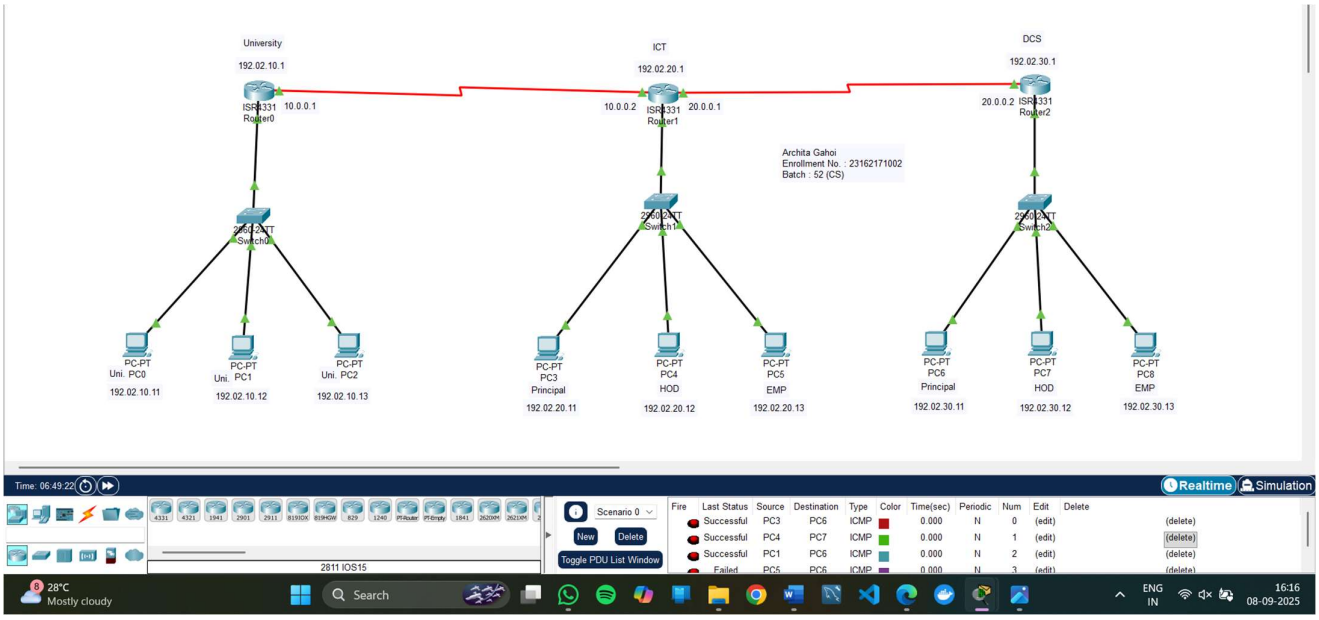
⇨ ACL on Router2



PCs packet transfer

: from principal to principal
: from HOD to HOD
: from Uni to principal

: from EMP to principal



Conclusion:

In this practical, ACLs were successfully implemented on the routers to control communication between University, ICT, and DCS departments as per the given access rights. This ensured secure and authorized communication within the organization’s network while restricting unauthorized access.