



## SIES (Nerul) College of Arts, Science and Commerce

UGC Recognized under 2(F) and 12(B) of UGC ACT 1956.

NAAC Reaccredited- "A" Grade. Affiliated to University of Mumbai

PLOT 1-C, SECTOR-V, NERUL, NAVI MUMBAI - 400 706.



(Nerul) College  
of Arts Science  
& Commerce

RISE WITH EDUCATION

CLASS : SY BSC IT

DATE :

Practical No. : 2 Topic :

### Q. Configuring LAN setup

Steps :-

1. Place all devices (1 laptop, 2 PC, 1 printer, 2 servers)
2. Connect them to a generic switch
3. Label them in dotted decimal notation.
4. Select each and every device and go to desktop  
→ IP configuration ; name IP Address  
name DNS Server
5. Click on any 1 server, keep FTP server ON and remaining services should be OFF
6. In FTP server create a ~~username~~ and password ; select the all the options given below and add it.
7. Click on any 1 of the PC, go to Desktop → command Prompt → give the following commands .

ftp 192.168.10.4

username : user

password : user

ftp > help

> dir

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> quit / exit  
 > ping 192.168.10.5  
 > ipconfig  
 > netstat  
 > ~~arp -a~~ 192.168.10.6  
 > nslookup

B. Select another server (192.168.10.6)

[Server] → [DNS]

DNS server ON remaining OFF  
 Client : New name : syit.com  
 Address : 192.168.10.6

9. Add Complex PDU   
 to 192.168.10.2 (PC)

10. Create Complex PDU

- Select Application HTTP
- destination IP Address - 192.168.10.4
- Source port - 2500
- Destination port - 80
- Periodic interval : 5 sec

11. Click 192.168.10.2

Desktop → Command Prompt → give  
 the following commands

> exit  
 > nslookup syit.com  
 > arp  
 > arp -a



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DATE :

Practical No. : 4 Topic :

### Q. Configure IP static routing

Steps :

1. Place all devices ( 6 PCs, 3 switches, 2 routers)
2. Connect them through <sup>normal wires.</sup> generic switch
3. Label externally in dotted decimal notation.
4. Do the configuration of IP address through desktop in PC's and router.
5. Router → desktop → IP address →  
fastethernet 0/0 → 192.168.1.1  
fastethernet 0/1 → 192.168.2.1
6. Click on serial 2/0 → router naming as 10.10.0.2. Set clock rate to 64000 and click on ON
7. Click on serial 2/0 ref another router name as 10.10.0.3 ~~Don't set clock rate~~  
Don't set the clock rate.
8. Select router 1, go to command prompt and give the following command.

Router (config-if)# exit

Router (config)# exit

Router # enable

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Router # conf t

Router (config) # ip route 192 168 3 0  
255 255 255 0 10 10 0 3

9. Select router 2, go to command  
prompt and give the following commands

Router (config-if) # exit

Router (config) # exit

Router # enable

Router # conf t

Router (config) # ip route 192 168 1 0  
255 255 255 0 10 10 0 2

Router (config) # ip route 192 168 2 0  
255 255 255 0 10 10 0 2



CLASS : SY BSc IT

DATE :

Practical No. : 5

Topic :

## Q Configure IP routing using RIP

Steps :

1. Place all devices ( 2 PC's, 2 switches, 2 router)
2. Connect these devices through generic star wires
3. Label them.
4. Do the configuration of IP address through desktop in PC's and router.
5. Router 1 → desktop → IP address → fastethernet 0/0 → 192.168.1.1
6. Router 2 → desktop → IP address → fastethernet 0/0 → 192.168.2.1
7. Click on serial 2/0 in both the router and income them as follow  
10.0.0.2 and 10.0.0.3 . Set clock  
rate in one of the router as 64000  
and don't set the clock rate in  
another one.
8. Select router 1 , go to command  
prompt and give the following command.  
Router (config-if) # exit  
Router (config) # exit  
Router # enable  
Router # conf t

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Router (config) # router rip

Router (config-router) # network 192.168.2.0

Router (config-router) # network 10.0.0.0

9. Select router 2, go to command prompt  
and give the following command

Router (config-if) # exit

Router (config) # exit

Router # enable

Router # conf t

Router (config) # router rip

Router (config-router) # network 192.168.1.0

Router (config-router) # network 10.0.0.0

Router (config-router) # end.



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CLASS : SY BSc IT

DATE :

Practical No. : 6 Topic :

## Q. Configuring simple and multi-area OSPF

Steps :

1. Place the devices (2 PC's, 2 switches, 2 router)
2. Connect those devices with each other using wire
3. Label them
4. Do the configuration of IP address through desktop in PC's and router
5. Router 1 → desktop → IP address →  
Fast Ethernet 0/0 → 192.168.1.1  
Click on serial 2/0 and name it as  
10.0.0.2. Set clock rate to 64000
6. Router 2 → desktop → IP address →  
Fast Ethernet 0/0 → 192.168.2.1  
Click on serial 2/0 and name it as  
10.0.0.3. Don't set the clock rate to
7. Select router 1, go to command prompt and give the following command.

Router (config-if) # exit

Router (config)# exit

Router # enable

Router # conf t

Router # router ospf 1

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Router # (config) # network 192.168.1.0

0.0.0.255 area 0

Router # (config) # network 192.168.10.10.0.0

0.255.255.255 area 0

8. Select another router 2, go to command prompt and give the following command

Router (config-if) # exit

Router (config) # exit

Router # enable

Router # conf t

Router (config) # router ospf 1

Router (config) # network 192.168.2.0

0.0.0.255 area 0

Router (config) # network 10.0.0.0

0.255.255.255 area 0

Router (config) # exit



CLASS

SY BSc IT

DATE

Practical No.

7

Topic:

## Q. Configuration of server and client.

Steps :

1. Place the following devices ( 1 PC, 3 servers, 1 Router, 1 switch )
2. Connect these devices with each other by using normal connecting wires
3. Label them
4. Do the configuration of IP address through desktop in PC and routers.
5. Select one of the servers, → services → keep DHCP service on and rest all should be off.
6. In that DHCP server, set poolname address, default gateway as 192.168.1.1 and set DNS server as 192.168.1.55 and
7. Now, select the PC, change the static from static to DHCP, then the IP address configuration will be requested. When done the IP address will be displayed automatically.
8. Now select another one of the server → go to services → keep HTTP service on and rest all should be off.

9. In that HTTP server, edit one of the html file by overwriting it and save it by adding.
10. After that, again go to PC  $\rightarrow$  web browser  $\rightarrow$  here, search your html file by the name. Then it will display the content of your saved file.
11. Select the last server  $\rightarrow$  go to services  $\rightarrow$  keep DNS server on and rest all should be off.
12. Configure IP address, subnet mask, default gateway and DNS
13. Now, go to PC  $\rightarrow$  web browser  $\rightarrow$  instead of searching the html file by the name put the IP address which was now configured, it will display the content.



CLASS : S4 BScIT

DATE :

Practical No. : 8

Topic :

Q. Configure basic security features for network.

Steps :

1. Place the devices ( 2 PC's , 1 desktop , 2 switch of 2960 and 1 router of 2911 )
2. Connect the switches to the router by using crossover wire through gigabit ethernet .
3. Label them
4. Go to the configuration of IP address in desktop of both PC and router.
5. Router 1 → desktop → IP address → gigabit ethernet 0/0 → 192.168.1.1
6. gigabit ethernet 0/1 → 192.168.2.1
7. Click on router → go to command prompt and give the following commands :

Router (config-if) # exit

Router (config) # exit

Router (config) # enable

Router (config) # conf t

Router (config-if) # hostname RTR-A

RTR-A(config) # no ip domain-look-up

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RTR-A(config) # banner motd # unauthorized  
 access not allowed #

RTA-A(config) # security passwords  
 min-length 10

RTA-A(config) # line console 0

RTA-A(config-line) # exec-timeout 70

RTA-A(config-line) # password cisco12345

RTA-A(config-line) # login

RTA-A(config-line) # exit

RTA-A(config) # line vty 0 4

RTA-A(config-line) # exec-timeout 70

RTA-A(config-line) # password Cisco12345

RTA-A(config-line) # login

RTA-A(config-line) # transport input ssh

RTA-A(config-line) # ip domain-name syit.com

RTA-A(config) # crypto key generate rsa  
 The name for the key generate will be : RTR-A. syit.com.

Choose the size of the key modulus in the range of 360 to 2048 for your General Purpose keys.

How many bits in the modulus [512]: 1024