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Date: 16/12/2018 Practical 1

Aim - Study of various network commands

in Linux and windows

Basic networking commands

- arp -a: ARP protocol for mapping address resolution protocol. It will show IP address of your computer
- ifconfig | all: it gives detailed information about your TCP/IP connection including Router, Gateways
- hostname: this is simplest of all TCP/IP commands. Displays name of computer
- netstat - a: Shows problems with NETBIOS name resolution (NBT stands for NetBIOS over TCP/IP)
- nslookup: name server lookup is a tool used to perform DNS lookups in Linux
- Path Ping: unique to windows and is basically combination of ping and traceroute commands.
- Route: it is used to show/manipulate the IP routing table.

viP

It's the basic commands every administrator will need daily work, from setting up new system & assigning IPs to Troubleshooting.

ip{ OPTIONS } { OBJECT } { COMMAND }

- a) to show IP address assigned to an interface

[root@server ~]# ip address show

- b) "

" ex: Enp3d3:

[root@server ~]# ip address add 192.168.

1.253/24

- c) to delete an IP on interface

[root@server ~]# ip address del 192.168.1.

- d) alter the status of interface by bringing the interface ~~is~~ to online

[root@server ~]# ip link set eth0, down

- e) display the route taken for IP

[root@server ~]# ip route get 10.10.1.4

2) ifconfig

This command is a staple in many noobs' tool belt for configuring and troubleshooting networks.

3) mtr

mtr (traceroute) is a program with a command line argument that serves as a network diagnostic and trouble shooting tool.

Syntax Of command

mtr (options) hostname/IP

- a) The basic mtr command, shows you statistics with each hop.

[root@server ~]# mtr google.com

- b) Shows no numeric(IP address)

[root@server ~]# mtr -b google.com

- c) Set # number of Pings that you want to send

[root@server ~]# mtr -c 10 google.com

Ping is a tool that verifies IP level connectivity to another TCP/IP computer by sending Internet control message protocol (ICMP) echo request messages.

```
[root@server1 ~]# ping google.com
```

```
PING google.com (216.58.206.174) 56(84)
```

bytes of data

```
64 bytes from 216.58.206.174: icmp_seq=1 ttl=56 time=1.2
```

ms

- You need to stop the ping command by pressing **CTRL + C**. Otherwise, it will ping unless you stop it.

Configuring an Ethernet connection using nmcli

If you connect a host to the network over Ethernet, you can manage the connection settings on the command line by using **nmcli** utility.

Procedure

- 1) In the network manager connection profile:
nmcli connection show
Name : VVID Type : device
Wired Connection id : 052 b6490-4120 Client : enp1s0
- 2) # nmcli connection add con-name L
connection.name(if name < device-name>) type ethernet
- 3) optional: Remove the connection profile
nmcli connection modify "wired connection"
- 4) Display the current sign. of connection profile
nmcli connection show
connection.id(if name : enp1s0)
IPv4.method : auto
IPv6.method : auto
- 5) Configure the IPV4 settings
• To use DHCP, enter:
nmcli connection modify "wired Connection"
IPv4.method auto skip this step if IPv4.method.

6. Configure the IPV6 settings
To use staticless method in wired connection,
IPV6 method can skip this step if IPv6
method is already set to auto.
7. activate the profile
nmcli connection up Intel al-LAN
- 1) Display the IP settings of NIC
ip address show ens150
ens150 (Broadcast, multicast, brd=1500, mtu=1500, qdisc=fq-codel
State: up group: default qlen: 1000
- 2) Display the IPV4 default gateway
ip route show default
- 3) Display the IPV6 default gateway
ip6 route show default
- 4) display the DNS settings

cat /etc/resolv.conf

nameserver 8.8.8.8

nameserver 192.0.2.200

If multiple connection profiles are active at the same time, the order of name server entries depends on the DNS priority values in these profiles.

5. Use the Ping utility to verify that this host can send packets to other hosts.

Ping <host-name or ip-address>

Student observation

- 1) Which command is used to find reachability of a host machine from your device?
- 2) The Ping command in networking is used to test the reachability of a host on internet.
- 3) Which command will be give the details of hope to take by a packet to reach its destination?
• Traceroute command
- 4) Which command displays the TCP port status in your machine?
• IP config command

21/11

Conclusion
Thus study of various network commands in Linux and Windows is a very powerful

3-3-2 Practical
on Study of different types of Network
Cables

Different Type of Cables

1. Unshielded Twisted Pair (UTP)
2. shielded twisted pair (STP)
3. coaxial cable
4. Fibre optic cable

Cable Type	Type Category	MD	Adv/Dis	Application use
UTP	Category 3	10Mbps	cheap dis	10Base-T Ethernet
	Category 5	upto 100Mbps	fast inexp	Fast Ethernet
	Category 5e	1Gbps	Prone to envi.	Gigabit Ethernet
STP	Category 6, 6a	10Gbps	Shielded Faster	10G Ethernet
	Category 7	10Gbps	disadvantages - expensive - greater installation effort	Gigabit Ethernet

coaxial cable	RG - 6 RG - 59 RG - 11	10 - 100 Mbps	High Bandwidth Low Loss Bendable Flexible	speed of signal from television network
fiber optic cable	Single mode multi mode	1000 Mbps	<ul style="list-style-type: none"> • High speed • High bandwidth • Low latency • disadvantageous • expensive 	<ul style="list-style-type: none"> • maximum distance of 100 meters

make your own Ethernet cross-over cable /

Straight cable

tools and parts needed

Ethernet cabling CAT5e is certified for gigabit support, but CAT5 cabling works as well just over shorter distance

A crimping tool. This is an all-in-one networking tool shaped to push down the pins in the plug and strip and cut the shielding off the cables

- Two RJ45 Plugs
- Optional two plug shields.

to make your own Ethernet cross-over cable

Step 1: To start construction of the device, begin by stripping shields onto the cable.

Step 2: Next, strip approximately 1.5 cm of cable shielding from both ends. The crimping tool has a round area to complete this task.

Step 3: After, you will need to untangle the wires, there should be four "Twisted Pairs". Referring back ^{to} the sheet, arrange them from top to bottom. One end should be in arrangement A and other in B.

Step 4: Once the order is correct, bunch them together in a line, and if there are any that stick out further, strip them back to create an even level.

Step 5: Next, Push the cable right in. The notch at the end of the plug needs to be just over the cable shielding and if it isn't that means that you stripped off that much shielding. Simply strip the cables back a little more.

Step 6: After the wires are neatly stripped inside the plug, insert it into crimping and push down

Step 7: Lastly repeat for the other end using diagram B to make a crossover cable

Student Observation:

What is diff between cross cable and straight cable

* The wiring of both ends of the cables is identical

* used for connecting different types of devices

Cross cable

* The transmitter and receiver wires are crossed

One end of user

+ used for connecting similar devices

2. which type of cable is used to connect desktops

A cross cable is used to connect two PCs directly

3. which type of cable is used to connect a router to your PC?

A straight cable is used to connect a router

or switch to PC.

Result

Thus, the utility of different types of networks

Cable is done and learnt & successfully

To download, the Packet Tracer tool
install it from and visit <http://www.cisco.com/cisco/pt>

Introduction

- A simulation, as the name suggests, simulate network devices and its environment.
 - It allows you to model complex systems without the need for dedicated equipment.
 - It helps you to practice your network configuration and troubleshooting skills via computer or an android or iOS based mobile device.
 - It is available for both the Linux and Windows desktop environments.
 - Protocols in Packet Tracer are coded to work and behave in the same way as they would in real hardware.
- ### Installing Packet Tracer
- To download Packet Tracer, go to <http://www.netacad.com> and log in with Cisco Learning Academy credentials, then click on the Packet Tracer graphic and download the version appropriate for your

Windows
Installation in windows is pretty simple and straightforward. No setup comes in single file names. Pocket Trolle - setup b01-1. Run open the file to begin set up wizard, accept the agreement, choose a location, and start the installation.

Linux

Linux users with an Ubuntu / Debian distribution should download the file for Ubuntu and those using Fedora/RHEL must download from fedora. Grant executable permission to this file using chmod.

chmod +x PocketTrolle_b01-1.28.6-install-
-rpm-bin

/PocketTrolle_b01-1.28.6-install- rpm-bin

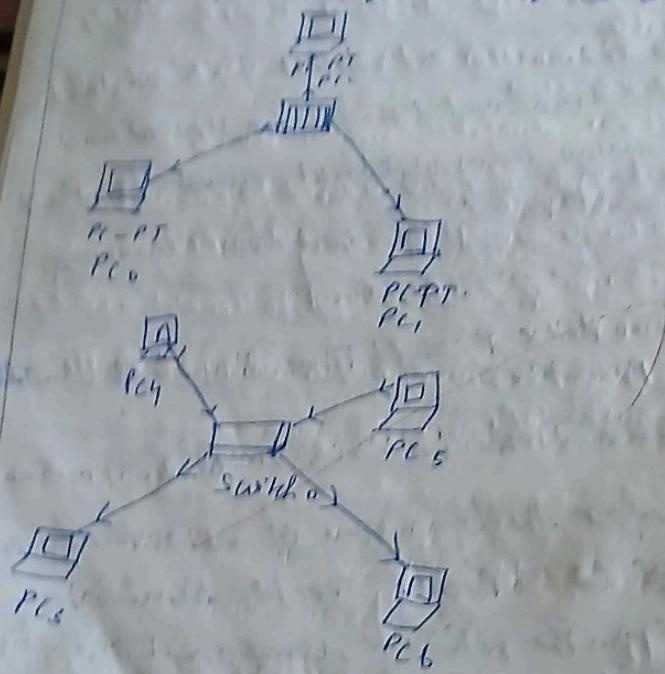
d) Analyze the behaviour of network devices using CISCO Packet Trolley Simulator

i) From the network component box, click and drag and drop the below components

a) 4 generic PCs and one HUB

b) 4 generic PCs and one switch

Q5. And an explanation
which are copper straight through cables
are also one of the PCs and connect it between
using cable. No link loss should occur
in area, indicating that the link is up.
Similarly connect other PCs to the switch
using copper straight through cables.



- 3) Click on PC connected to HUB A to select it, click on IP configuration and enter IP address and subnet mask.
 - a) Click on PDU (message icon) from common tool bar.
 - b) Drag and drop it on one of PC and drop it on another PC connected to HUB.
- 4) Observe to follow PDU from source PC to destination PC by selecting the Realtime mode of simulation.
- 5) Repeat #3 step to step #5 for the PC connected to switch.
- 6) Observe how HUB and switch are forwarding the PDU and write your observation and conclusion.

Result

Thus the study of Pocket tracer tool Installation and user Interface is done and completed successfully.

Practical-4

15/8/2021
AIM: Set up and configure a LAN using switch
and Ethernet cable in your lab.

What is LAN?

A local area network refers to a network that connects devices within a limited area, such as an office building or home. It enables users to share resources, including data, printers, and internet access.

How to set up a LAN

Step 1: Plan and design an appropriate network taking into account network requirements and equipment location.

Step 2: You can take 4 computers, a switch with 8, 16, or 24 ports which is sufficient for networks.

Step 3: Connect your computers to network switch via an Ethernet cable.

Step 4:

Assign IP address to your PCs.

- 1) Log onto the client computer as administrator or as owner
- 2) Click network and Internet connections
- 3) Right-click Local Area Connection/Ethernet →
→ Go to Properties → Select Internet Protocol (IPv4/TCP)

Similarly assign IP address to all PCs connected to switch

• PC₁ - IP address 10.1.1.1 Subnet mask
255.0.0.0

• PC₂ - IP address 10.1.1.2 Subnet mask
255.0.0.0

• PC₃ - IP address 10.1.1.3 Subnet mask
255.0.0.0

• PC₄ - IP address 10.1.1.4 Subnet mask 255.0.0.0

Step 5 :- Configure a network switch

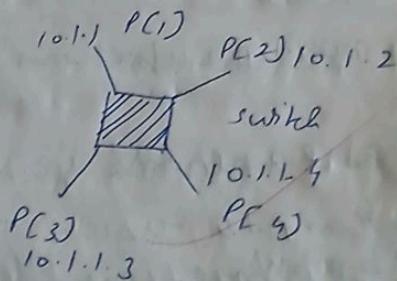
1. Connect your computer to switch. To access the switch's web interface, you will need to connect your computer to a switch using a Ethernet cable.
2. Log into web interface: open a web browser and enter the IP address of the switch in the address bar. This should be 192.168.1.1

login Page for the switch web interface
3) configures basic settings once you are logged in → you will be able to configure
4) Assign IP address 192.168.1.1 subnet mask 255.0.0.0

Start check the connectivity between switch and other machine by using Ping command in the command prompt of the device.

Step 7: Select a folder, go to properties → clicking sharing tab → share it with everyone on the same LAN

Step 8: Try to access the shared folder from other computers of network



Result: This is about experiment on LAN configuration successfully

Ch 10: LAN

Draw a neat diagram of LAN in the configuration shown in book that implemented in your lab with the configuration of each every device with its outcome and challenges faced while configuring the LAN.

LAN was successfully setup and all devices could communicate with each other using their assigned IP address. Shared resources like folder were accessible from all connected PCs. Challenges faced:

Ensuring proper cable connections to avoid loose connections that could damage the cables.

Ways to avoid such errors:

- 1. Use standard cables.
- 2. Use proper tools for crimping.
- 3. Use proper termination at both ends.
- 4. Use proper connection techniques.
- 5. Use proper labeling for cables.
- 6. Use proper management software.
- 7. Use proper testing tools.
- 8. Use proper documentation.
- 9. Use proper training and supervision.
- 10. Use proper equipment.

Aim

write a program to implement error detection and correction using hamming code concept make a test run to input data stream and verify it.

Error correction at data link layer

Hamming code is a set of error correction code that can be used to detect and correct the errors that can occur when data transmitted from sender to receiver.

Create sender Program with below features

1. Input to send file should be text of any length
2. Apply hamming code on binary data and add redundant Bits.
3. Save the output.

Create a receive program

1. receive program should be read w/K input from channel file
2. Apply Hamming code on Binary data
3. if there is an error, display position of the error
4. else remove redundant bits

Student observation

```
import numpy as np
fn to connect + get to binary
def text_to_binary(t):
    return "join(format(char),108b') for char in t"
# fn to convert binary to text
def binary_to_text(b):
    chars[Binary[i:i+8]] for i in range(0, len(b)/8)]
    return "join(char,int(char,2) for char in chars)"
def code_reel_Bits(m):
    r=0
    while (2+r+1 < m+r+1):
        r+=1
    return r
def pos_red_Bits(data,r)
    R=0
    m = len(data)
    for i in range(i, m+r+1):
        if (i=2d+j)
```

```
# calculate - bits per word
n = len(arr)
arr = arr[::n]
for i in range(n):
    pos = 2 + i
    for j in range(i, n+1):
        if j < n:
            Parbit = int(arr[j] % 2)
            arr[Parbit - 1] = str(0)
def detect_error(data, n):
    n = len(data)
    No = 0
    for i in range(n):
        Parbit = 0
        pos = 2 + i
        for j in range(i, n+1):
            if j < n:
                Parbit += int(data[j] % 2)
        if Parbit % n == int(data[pos-1]):
            result = position
        else:
            print("error pos & no. of correct")
            corrected_data = join(data)
    else:
        print("No error detected")
    return data
```

result

Hence, the Hamming code has been detected
successfully

Practical - 7

23/9/18

Write a program to implement flow control and link layer using 802.5 window protocol

Create a send program

1. Input windows size from user
2. Input a TEL message from the user
3. Consider characters per frame
4. Create a frame with following fields
T, send ID, frame
5. wait for acknowledgement from receiver
6. send a file called receive - buffer
7. check Ack field for acknowledgement number

If ACK number is reported, send new set of frames accordingly else if NACK is received repeat no frames accordingly.

Create a receive file

1. Reader a file called sender - buffer.
2. Check the frames.
- 3) If No frame no was as expected, write the open ACK no in the receive - buffer file else write NACK no in the receive buffer file

10/11

new frame
old frame

claypan with frame in it
off white frame
size 10 x 10 in

old abandoned - old
off white frame (frame, window - 7 x 10)

print (1) - white frame "

for 1 in cage (frame, window - 7 x 10)

1 1/2 in (frame) and white frame (1,)
abandoned

total of "one frame (1,)"
1 frame (1, do's)"
print "frames (1), waiting for abandonment"

off white frame (frame, window - 7 x 10)
print (1) - - - - -

for 1 in cage (frame - 7 x 10)

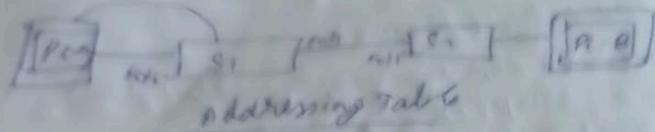
1 1/2 in (frame) and white frame (1,)
abandoned

one (1, 100%)

frames (1) acknowledged: false
true

print (1) "perches frame (frame (1, frame - 100%)
(frame (1,) false)

Week Practical 3
min - ② Simulate virtual LAN
configuration using Cisco Packet Tracer
Tools simulation



DEVICE	INTERFACE	IP ADDRESS	SUBNET MASK	DEFAULT GATEWAY
S1	VLAN1	192.168.1.11	255.255.255.0	N/A
S2	VLAN1	192.168.1.12	"	N/A
PC-A	NIC	192.168.1.0.2	"	192.168.1.0
PC-B	NIC	192.168.1.0.3	"	192.168.1.0.1

objectives

Part 1: Build the network and configure basic device settings

Part 2: Create VLAN and Assign switch Ports

Part 3: Maintain VLAN Port Assignments

Part 4: Configure on S1-1 & Trunk b/w switches

Step 1:

Computer should be connected to Internet via LAN or Wi-Fi.

Step 2: Build the network connection with the following steps

- a) Click on Start button, click on Control Panel icon.
- b) Under Network and Internet section, click on Network and Sharing Center icon.
- c) Under Network and Sharing Center window, click on Change adapter settings icon.
- d) Connect cable cables from Router Port 1 to 2, and then from Port 2 to 3.

Step 3: Configure basic settings for local network

- a) From desktop right click on Local PC, and click on "Properties" icon.
- b) Under configuration icon, click on "Network and Sharing Center".
- c) Assign a static IP address to Local Network.
- d) Assign static gateway protocol and enable DHCP.
- e) Assign port number 8080 to 80.
- f) Configure IP address list by clicking on "Advanced" button.
- g) Don't assign all IP before that will not be used.

Step 3: Configure PC hosts
from the desktop tab on each PC, click
IP configuration and look for a summary
information as displayed in
Address table

Step 4: Test connectivity

Test network connectivity by attempting
to ping between each of cabled devices.

Command

Switch > enable

Switch # config terminal

switch # vlan 10

switch (config-vlan) # name

VLAN-10

switch (config-vlan) # exit

VLAN-20

switch (config-vlan) # exit

Connect switch port to VLANs

for PC,

switch (config) # interface

Fast Ethernet 0/1

switch (config-if) # switchport

mode access

switch (config-if) # switch Port
access VLAN 10
switch (config-if) # exit

for PC:

switch config # interface

Fast Ethernet 0/2

switch (config-if) # switch Port

mode access

switch (config-if) # switch Port

access VLAN 20

switch (config-if) # exit

Step 4: Verify VLAN configuration on

1. Run the command to confirm VLAN are configured switch # show VLAN level

Step 5: Testing connection

1. Select PC, open command prompt and Ping PC.

2. Since both the PCs are connected to different VLAN's they shouldn't be communicating

Step 6: Save configuration

Finally : Save config by running

Switch # copy running - Config startup
on config

- (a) Configuration of wireless for windows
Cisco pocket router
1. In Cisco pocket windows click network
area and click wireless settings and
select wireless route in center
 2. Pick 3 PCs
 3. Click No wireless route and go to host tab
check the IP to 192.168.1.0 click disable
and save
 4. Come up again → wireless settings,
change network name to my house
 5. Go to up, check wireless setting → security
mode, change to WEP, assign key as,
 6. Close Tab
 7. Go to CCW → desktop → IP configuration.
IP address: 192.168.0.5
Subnet mask: 255.255.255.0
default gateway: 192.168.0.1
 8. similarly change in PC
IP address in 192.168.0.6
Subnet mask: 255.255.255.0
default gateway: 192.168.0.1
 10. Go to top in PC, turn off PC and follow change drop
Ethernet Port.

you can do for me please, can you
make a report for 1992-1993, can
you collect information about your
activity conducted

part for PESO and POC & do the analysis
for each organization for all PESO
concerned because first time I have done
during the financial year 1991-92, so we

Part

1. PESO	NAME	STATUS	PORTA
1.	defaul	active	for 1991, 1992
2.	marketing	active	for 1992, 1993
3.	Sales	active	for 1991, 1992
4.	Logistics	active	in progress
5.	Marketing	active	

1992-1993-0-6

1992-1993-0-6 with 32 date of data

Request issued on

the statistics for 1992-1993-0-6

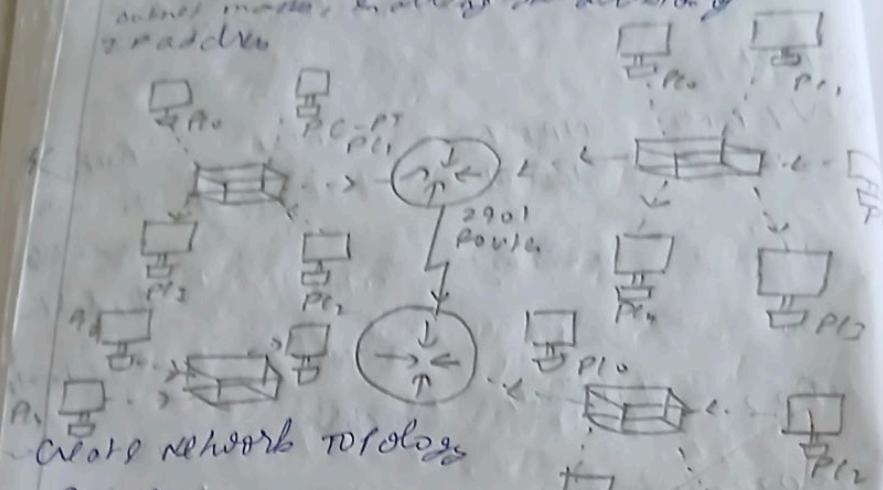
check back also, received on 1st July 1993

Virtual LAN configuration using CISCO
configuration of wireless LAN using CISCO
done and related documents

13/10/2024
Implementation of subnetting
Experiment - Implementation of subnetting
Date: 10/10/2024

Aim: Simulate classless IP Subnetting using Cisco packet tracer

Description: classless IP subnetting efficiently utilizes IP address by allowing flexible subnet mask, enabling the division of IP address.



Create network topology

Open CISCO

Select new → network → generic

Add devices

drag and drop 4 switch and 20 PCs,
2 routers

Subnetting example

Subnet the address 192.168.10.21 to 22.

in network
configuration area

as 192.168.10.1
as 192.168.20.1

Port of PC₀ with routes

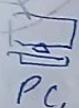
and port of PC₁ with routes

O/L

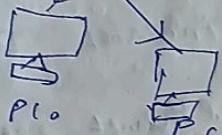
with topology
from PC₀ to PC₁

Router

Router



PC₀



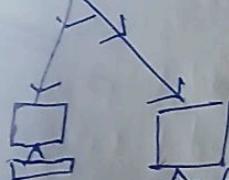
PC₀



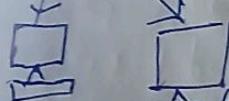
PC₁

acknowledgment

Router



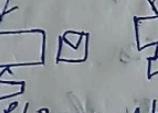
PC₀



PC₁



PC₀



PC₁

Result: The implementation of internetworking with
routers using CISCO Router Tracker is started

29 NOVEMBER 2018

ROUTER

ROUTER MODE

SWITCH

ROUTER MODE

ROUTER MODE

ROUTER

ROUTER MODE

ROUTER MODE

ROUTER

ROUTER MODE

ROUTER MODE

ROUTER

ROUTER MODE

ROUTER MODE

configuring device

para configuration

in CLI of R1 :-

enable

configure terminal

intifconfig fast ethernet 0/0

IP address 192.168.1.1

255.255.255.255

NOT shutdown

exit

intifconfig fast ethernet 0/1

IP address 192.168.2.1

255.255.255.255

no shutdown

port 1, in monitor mode is connected
instead of 192.168.1.11
and instead of 192.168.1.11

Switch configuration

In CLI of switch

enable
capture terminal
interface fastethernet 0/1
switch port mode access
set

interface fastethernet 0/2
switch port mode access
set

PC configuration

- 1 Open configuration for local PC
- 2 Set IP address, subnet mask and default gateway for example for PC1:

IP: 192.168.1.11

Subnet mask : 255.255.255.248

default gateway: 192.168.1.1

Testing network:

from one PC, we Ping command to
Ping another PC from another
network to check its

QUESTION
QUESTION PAPER
QUESTION PAPER

Subnet掩码

What does subnet掩码 do?

It is a computer networking technique that breaks up networks into smaller, more efficient subsets.

Advantages of subnetting can be written down

i) Subnetting can improve network performance.

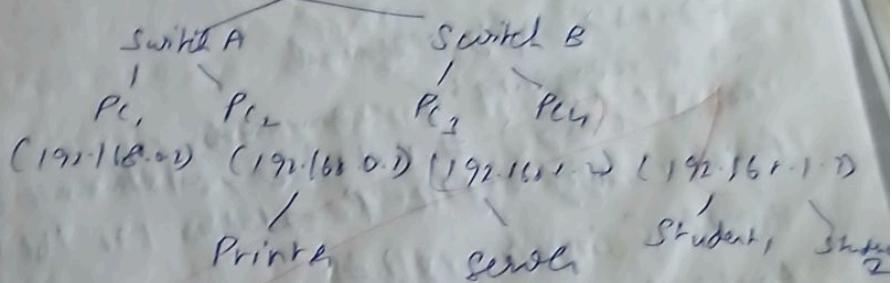
ii) It can reduce network traffic.

(iii) Subnetting can allow devices on a subnet to communicate directly with each other.

Find out Subnetting is implemented in your college if yes list down it.

Internet

Router



192.168.0.124 → Academic

192.168.0.125 → Admin

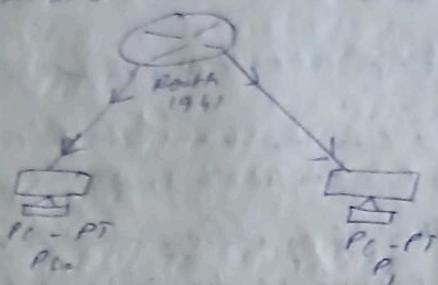
192.168.0.126 → Student

Result
Hence the subnetting is proved successful

Date 17/10/14

From Internet working with Router in Cisco
Protocol Router

To two routers & hosts and PCs are connected
PCs are connected with routers using
Ethernet cable



Procedure

Step 1 (configuring Router)

1. Select Router, open CLI
2. Type enable to activate

Command:

Router> Conf's Terminal

Enter configuration commands

Router (config) # interface fastethernet 0/1

Router (config-if) # ip address 192.168.1.

Router (Config-if) #

Router (config-if) # interface fastethernet

Router (config-if) # ip address 192.168.20.1

255.255.255.0

Point to point PDU structure

Step 1:

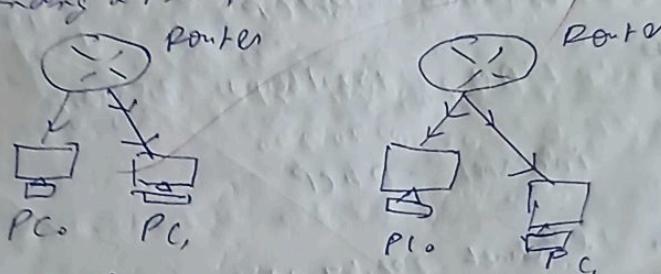
1. Assign IP address to every PC in network
2. Select PC destined for TCP connection port
3. Address default gateway
4. Default gateway PC, 00.192.168.1.247

Step 2:

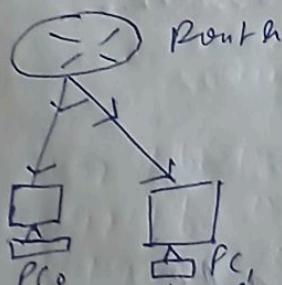
1. Connect fast Ethernet port of PC_A with switch port Ethernet
2. Connect fast Ethernet port of PC_B with switch port Ethernet O/I

Designed network topology

Sending a PDU from PC_A to PC_B



Acknowledgement



Result: The implementation of Internetworking with routers using ISO PDU structure is executed

1. Create a simple network
2. Add nodes
3. Add edges
Add the smaller parts, build up

internet cloud, route from router
+ use copper ST cables to connect PC to router
route to module and internet cloud to OTRU via
DSL

use a coaxial cable to connect the modem to
internet cloud

Physical config Give Attribute

Global
Settings
Algorithm
Interface
Internet
LAN
Wireless

Global Settings
display name (wireless router)

II Configure network devices

Set the SSID to home network in wireless tab.
in its setup tab, enable DHCP and set the DNS
server IP to 208.67.220.220

Configure laptop:

- + Rename ethernet module and replace it with a wireless module
- + connect laptop to the "homework" via
PC tab

Configure Po

No 2 or config which will get IP and
DHCP and obtain MAC address from switch

or configuration Po and to static or nothing
with the no config all command
config your interface related
initial memory modules

config tab

configure radio com radio
return the Router-as DHCP and DNS
radio with

pool name: DHCP pool

DNS: 208.67.220.220

Starting IP: 208.6.7.220.1

Configure fast ethernet interface w/k
Static IP of 208.62.20.220

wireless network adapter

wireless setup wireless networks properties

Wireless setting	Network mode	work
	Network name	[Home network]
	Radio band	[Auto]
	Wide channel	[Auto]
	Standard channel	[1-11]
	ESS broadcast	[Enabled]

III Verify connectivity

1. Refresh PC IP settings

In DOS command Prompt use command Ifconfig
and IP config /renew to refresh the IP
configuration.

2. Ping cisco.com

Test connectivity by pinging cisco.com from
PC Command Prompt

Physical config desk top programming Attribute
command Prompt

IP address 0.0.0.0

Subnet mask 0.0.0.0

Default gateway .. 0.0.0.0

DNS server .. 0.0.0.0

C:\>

C:\>

C:\>

C:\>

C:\> ip config / renew

IP address ... 192.168.0.101

Subnet mask ... 255.255.255.0

default gateway ... 192.168.0.1

DNS server ... 208.67.220.220

C:\>

C:\>

C:\>

C:\>

C:\> Ping Cisco.com

Pinging 208.67.220.220 with 32 bytes of data

Replay from 208.67.220.220 : bytes = 32 times

= 1 ms + TTL = 127

Replay from 208.67.220 : bytes = 32 times

TTL = 127

Ping statistics for 208.67.220.220

Packets sent = 4 received = 4 lost = 0
(0% loss)

An approximate round trip time is

minimum = 1 ms , maximum = 10 ms ,

Avg = 3 ms

② Save and close Pocket Tracker
Once everything is stored and saved
from configuration and close pocket tracker

Student observation.

1. key features of configuring wireless routers
and DHCP in wireless routers
 - + configuring wireless router
 - + keeps your router upto date with latest
security patches
 - + keeps your router upto date with latest security
patches
 - + mac address filtering, allows you to configure
your router to only allow known devices
to connect to network
 - + DHCP in wireless router
- + DHCP allows for centralized definition of TCP/IP
configuration
- + DHCP dynamically assigns IP addresses to
new devices on a network

A 21M

Result: We designed and configured wireless
using wireless router

Expo-11 Simulate Static Routing configuration
Date: 26/10/2015 using cisco packet tracer

Aim: Simulate Static routing configuration
using cisco packet tracer

1) Setting up拓扑

- Open Cisco packet and Create a network topology with three routers. Each connected to different networks.
- Assign IP address to each router

2) IP address configuration

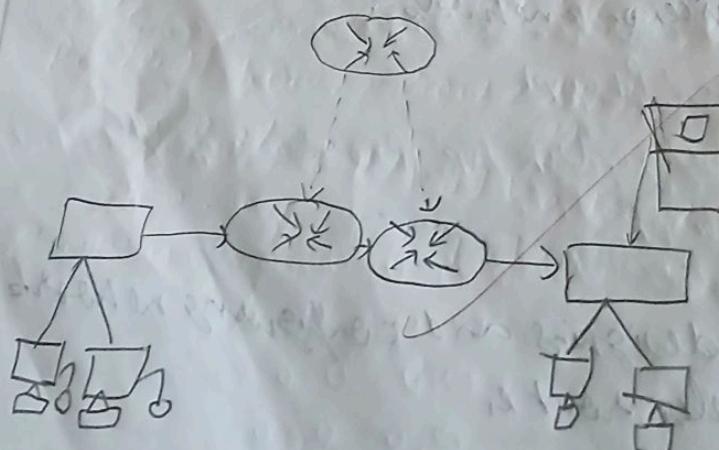
- Assign IP address to all routers & this according to topology

3. Static routing configuration

Router (config) # ip route 30.0.0.0
255.0.0.0, Router config # ip

4. Verification

To verify the static routes added, use
the following command



Router	Available networks	Networks in this Router link World
Router0	10.0.0.0/8 20.0.0.0/8 40.0.0.0/8	30.0.0.0/8, 40.0.0.0/8
Router1	20.0.0.0/8 30.0.0.0/8	

Router enable

Router # config terminal

Router (config) # ip route 30.0.0.0 255.0.0.0 200.0.0.2

Router (config) # ip route ; 20.0.0.0 255.0.0.0 200.0.0.2

Router (config) # ip route : 50.0.0.0 255.0.0.0 400.0.0.2

Router (config) # exit

S 30.0.0/8 [100] via 20.0.0.0

S 30.0.0/100] 30 [100] via 400.0.0.1

Router #

R1 # configuration

R1 # config

Router > enable

Enter configuration commands on Router0 and Router1 (config) # ip route 10.0.0.0 255.0.0.0

Router (config) # ip route 10.0.0.0 255.0.0.0

Rout# (config)# ip route 0.0.0.0 0.0.0.0

20 0.0.1.0

Rout# (config)# 20 0.0.1.0

Rout# (show) ip route

S 10.0.0.0/8 C 10.0.0.1 20.0.0.1

S 20.0.0.0/8 C 20.0.0.1 0.0.0.0

Rout#

R3 Arguments

Create static routers for networks

10.0.0.0 and network 20.0.0.0/8 and

Verify no routes.

2.2 Configuration

Rout# config

Rout# (config)# ip route 10.0.0.0

255.0.0.0 20.0.0.1

Rout# (config)# ip route 20.0.0.0

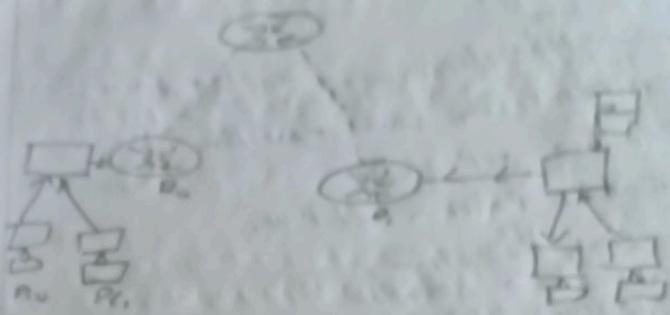
255.0.0.0 10.0.0.1 Rout# (config) #

Rout# show ip route static

S 10.0.0.0/8 [1/1] via 20.0.0.1

S 20.0.0.0/8 [1/1] via 10.0.0.1

Rout#



Deleting a static route

1. Show static route
Router# show ip route static
2. delete the route
Router (config)# no ip route 30.0.0.255
< net - hop - ip >

Kashm

Result

The program for simulating Static Routing has been executed successfully.

8.2.19
Date: 01/01/19
Implementation of echo client using TCP/UDP socket
1) TCP echo client source algorithm

1) Create a TCP socket

2) Bind the socket to all ports

TCP-client algorithm

1. Create a TCP socket

2. Connect at Hostile using specified client & port

3. Receive the message from the service.

4. Close the socket

TCP-Hostile,

import socket

def TCP-server,

serve-socket () -> socket socket (

Socket AF_INET Socket . Sock-STR
ctm)

serve = socket. socket ()

Print (TCP Server is waiting for a
connection)

Connection. Client address = serve-

socket

key:

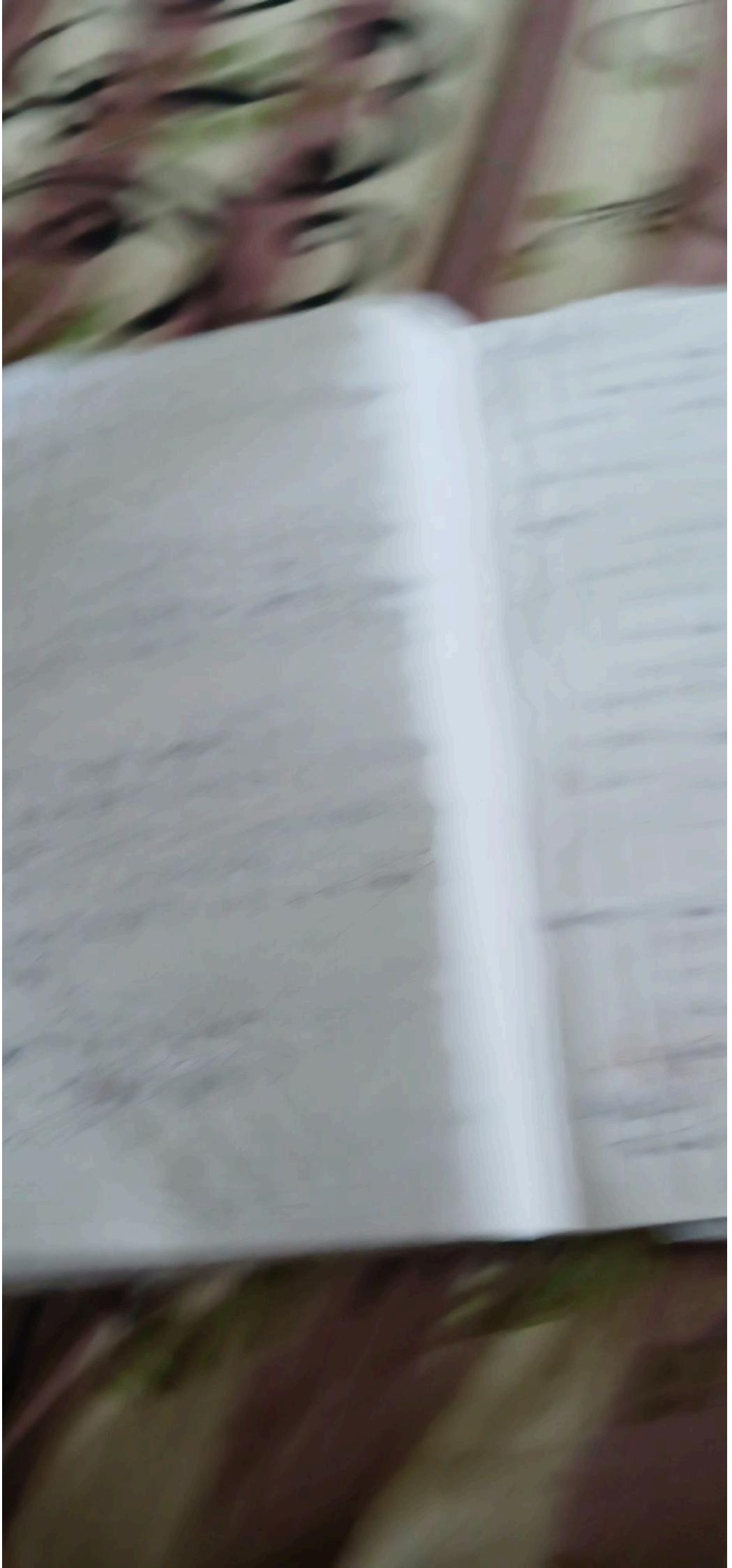
while true.

```
data = connection.recv(1024)
if data:
    print("Received:", data.decode())
else:
    break
finally:
    condition.acquire()
    id -= now - min_id
    for send in:
        tcp_client.py:
            import socket
            def tcp_client():
                def tcps_client():
                    client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
```

Output

```
> Python tcpclient.py
Enter the msg : Hi, this is Onish
Received from Alcures: Hi, this is Onish
> Python tcp-server.py
TCP server is waiting for connection
Connected to (127.0.0.1:21)
```

Result: The program for using the client server
TCP has been executed successfully



```
ping-client.py
import socket
import time
newfile = open('127.0.0.1', 'w')
port = 12345
def ping():
    with socket.socket(socket.AF_INET, socket.SOCK_DGRAM) as s:
        s.settimeout(1)
        start_time = time.time()
        s.sendto(b'Ping', ('host', port))
        data, addr = s.recvfrom(1024)
        end_time = time.time()
        print("Received Data from seconds")
        print("Request timeout")
        print("Request timeout")
f.__name__ = "main"
ping()
print("Python")
print("ping-server.py")
print("UDP server running")
print("Python ping-client.py")
print("Receives Ping from (127.0.0.1, 12345)")

Result
Thus the program is executed & verified
successfully
```

- Ethernet
File: Write a code reading & few socket -
importation & socket sniffing
algorithm

- 1) Install by name 2 scapy
- 2) Create a program open test edition (rooted)
file in notepad called Pocket Sniffing
by one file in notepad called and
on also network packets
- 3) Set up packet tracker by each of the
packet has IP layer, ident to the packet
overhead protocol such as TCP, UDP,
ICMP
- 4) Capture network packets to
- 5) Run the packet sniffer by using
command
Program:

from Scapy.all import sniff
from Scapy.layers.inet import IP;

TCP, UDP, ICMP

def Packet + - Coll node (Packet)
if IP in packet
IP_layer = packet (IP)

protocol = IP_layer.proto
src_ip = IP_layer.Src
dest_ip = IP_layer.dst

Protocol-name -

```
if protocol == 1:  
    Protocol-name = "ICMP"  
elif protocol == 6:  
    Protocol-name = "TCP"  
elif protocol == 17:  
    Protocol-name = "UDP"  
else:  
    Protocol-name = "Unknown protocol"  
Print ("Source-IP : Src-IP")  
Print ("Destination-IP : dest-IP")  
Print ("---")  
def main():
```

Output

> python socket_sniffer.py

Protocol : TCP

Source IP: 232.15.215.222

destination IP: 292.168.109.7

Result: ~~Success~~
The Program to implement socket sniffer
is done successfully



My Domain for October 2024

Unpublished material

EXPOSI

Aim

to analyze the different types of web logs using webalizer tool

Procedure

Step 1: Run webalizer windows version

Step 2: Input web log file

Step 3: Press run webalizer

Steps:

- 1) Open Xampp and check whether there is an already existing Project
- 2) If not, Install a sample program Project and host it by using Xampp control
- 3) Go to admin and give a DB name and import the DataBase files
- 4) Go to the local host, filename and run the Project

5) If it is not empty, open terminal then open webalizer in Xampp

- 6) Run command webalizer. See
- 7) Then go to Xampp >htdocs>webalogs > index.html

Result

Thus the different types of log using webalizer are one fed

1173
daily usage for October 2024

sites Pages / Files / Hits

