COMPUTER NETWORKS PRACTICUM

PRACTICUM 11

By:

Motwkel Mhmoud Mohmed

NIM: L200184220

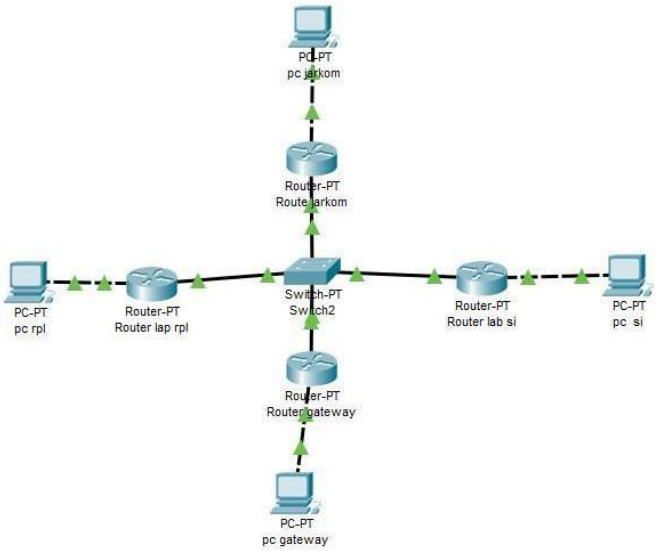
INFORMATION TECHNOLOGY

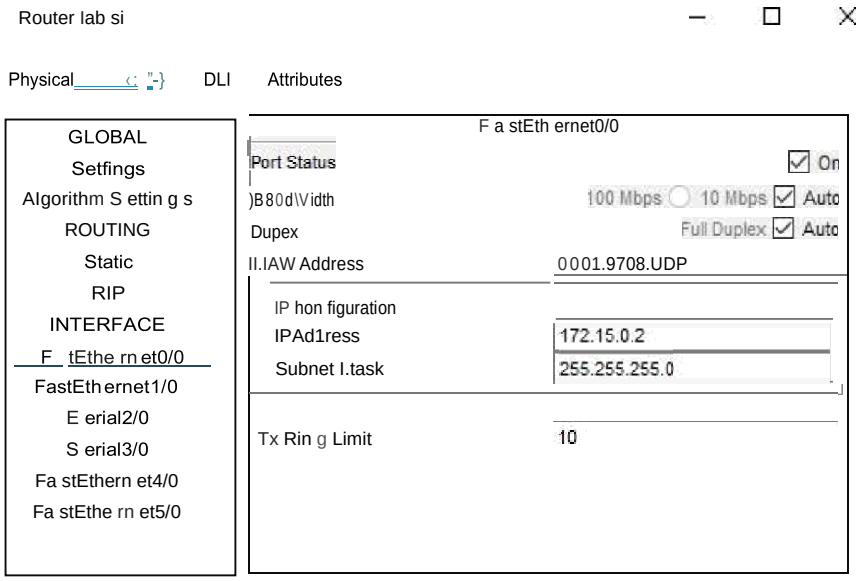
FACULTY OF COMMUNICATION AND INFORMATICS

UNIVERSITY OF MUHAMMADIYAH SURAKARTA

2020

1. Activity


PC-PT
pc jarkom
Router-PT
Router jarkom
PC-PT
pc rpl
Router-PT
Router lap rpl
Switch-PT
Switch2
Router-PT
Router lab si
PC-PT
pc si
Router-PT
Router gateway
PC-PT
pc gateway



Equivalent IO * C a mman Js

chsngei stste t: uy

Roucer:enahle
âouter#
âcuter#configure terminal
enter configuration cosonands, one per line. :nd with CHIL.ZZ.
âouter{con?ig)#inter*ace Festotherneto/O
9cuter{ccn:ig-iJ)#

" @ Router lab si

Physical CDnfig CLI Attributes

lOS CDmmand Line Interface

```
% Invaiia input aetectea at '-' marker.

Bouterlconfig)#en

%SYS-5-CDNFIG_I: Configurea from consoie by consoie


coaes : c — ooze ccea, s — s c ac T o. I - Iig09, B - RI9, N — nh'; 1 o , B —

       D - 9IGRP, J£X - BIGBP external, O - OSPF, IA - OSPF inter area
       Rl - OSPF NSSA enternal type 1, Nl - OSPF NSSA enternal type Z
       Bl - OSPF external type l, DZ - OSPF external type A, B - BGP
       i - IS-IS, Ll - IS-IS level-l, L2 - IS-IS level-2, ia - IS-IS

       ' - candidate default, U - per-user static.route, o - ODB
       P - periodic aownJe»aed static route

Gateway of last resorr is not set

     l7Z.lS.0.0/Z4 is subnettea, l subnets
C       l7Z.15.0.0 is directly connected, 'FastEthernet0/0
R    i7z.i4.0.0/ie fiz0/L via i7z.ia.0.i, 00:00:z0. F tzthernet0/0
     l7Z.17.0.0/Z4 is subnettea, l subnets
C.      l7Z.17.0.0 is directly connected, FastBthernetl/0
B    l7Z.18.0.0/lf LlZ0/l] via 173.15.0.3, 00:00:05, FastBthernet0/0
R    i7z.is.0.0/ie fiz0/L via i7z.ia.0.4, 00:00:zW F tzthernet0/0

Bouter#
```

Ctrl+F6 tD exit CLI focus

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' @ Route jarkom

Physicai conng cLi attributes

DSCommendLinc1•=aoe

```
changed state to up


Codes: C - connected, S - s*a*ic, I - IGRP, R - RIP. H - mobile, B -

       D - ZIGRP, EX - EIGRP exDernal, O - OSPF, IA - OSPF inoer area
       dI - OSPF NSSA ea*ernal Dype I, d2 - OSPF NSSA ex*ernal ype ?
       El - OSPF cnte*nzl type 1, E2 - OSPF cxtcrnzl type 2. E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS

       • - canAiAat e aerauit . U - per-user st at ie ronse, o - ODR
       P - Sericare aoun£oaaea s catic tonse

Gateway Of lasD resort is noD see

     172.15.0.0/24 is subnetted, l subnets
C       l7?.15.0.0 is airectly connectea. FastEthernet0/0
     172.lf.0.0/Z4 is subnetted, l subnets
C       l7?.lf.0.0 is airectly connected. FastBthernet1/0
B    L72 . IN . 0 . 0/ 1€ [ 1 20/ LJ vi a l T 2 . LS . 0 . 2, 00 : 00 : 0€. Fas ¥E he Arte c 0/ 0
R    172.18.0.0/14 tI?0/l] via 172.15.0.3. 00:00:07, FaszEzhe*nez0/0
9    172 .. l S . 0 . 0/ 1€ t 1 20/ 1 vi a T 7 2 . 1 S . 0 . 4, 00 : 00 : 22 , Ka s¥Tchecne 0/0
```

y arxomt)

CM+F6 to exit CLI focus

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@ Router lap rpl

Physical Cortfig ccl Attributes

IOS Command Line Interface

```
%LINBPROTO-S-UPDONN: Line protocol on. Interface FastBthernetl/0,


Router#show ip route
coaes - c — come ot-ea , s — s cac T e , I — ICg'9, B — b'I9, H — mojsile , B —

       D - BIGBP, BX - EIGBP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA Rnternal type 1, N2 - OSPF NSSA external type 2
       B1 - OSPF external type l, B2 - OSPF.externaL type 2, R - BGP
       i - IS-IS, D1 - IS-IS level-l, L2 - IS-IS leveL-2, ia - IS-IS

       ' - candidate default. U - per-.user static route. o - ODB
       P - periodic downloaded static route

Gateway of last resorr is not set

     172.15.0.0/24 is subnettea, l subnets
C       172.15.0.0 is directly connected. FastEihernet0/0
B    172.1f.0.0/14 [120/1] via 172.15.0.1. 00:00:13, FasuFthernet0/0
R    172.17.0.0/lf [120/1] via 172.lS.0.Z, 00:00:ZZ, FastBthernet0/0
     17Z.18.0.0/34 is subnerrea, l subnets
C       17Z.18.0.0 is directly connected. FastEtherpetlZ0
R    173.19.0.0/lf [lZ0/l] via 172.15.0.4. 00:00:11, FastBthernet0/0
```

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@ Router gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
%LINFPR0FO-S-UPDOUN: Line pro<ocdl on Interface FastEihernetl/0,


B    "4
       c*—* eorme ocea, s — stat T e , I — ICB9, 8 — BI9, N — mo»ile , B —

       D - EIGBP, aX - EIGBP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF .NSSA enternal type 1. N2 - OSPF .NSSA enternal type Z
       B1 - OSPF external type l, EZ - OSPF external type 2, E - BGP
       i - IS-IS, Ll - IS-IS level-l, L2 - IS-IS level-2, ia - IS-IS

       * - candidate default, U - per-user static route, o - ODB
       P - perioaic aownioaaea static route

Gateway of last resort is not set

     172.lS.0.0/Z4 is subnettea. l subnets
C 173.15.0.0 is directly connected, FastEthernet0/0
B    17Z.lt.0.0/lf LlZ0/l] via 17Z.15.0.1, 00:00:23, FastEthernet0/0
B    17Z.17.0.0/lf LlZ0/l] via 173.lS.'0.2. 00:00:04, FastBthernet0/0
B 172.18.0.0/lf [130/1] via l7Z.15.0.3, 00:00:0t, FastBthernet0/0
     173.15.0.0/34 is subnetted. l subnets
C       17Z.15.0.0 is directly connected, FastBthernetl/0
```

Ctrl+F6 to exit CLI focus

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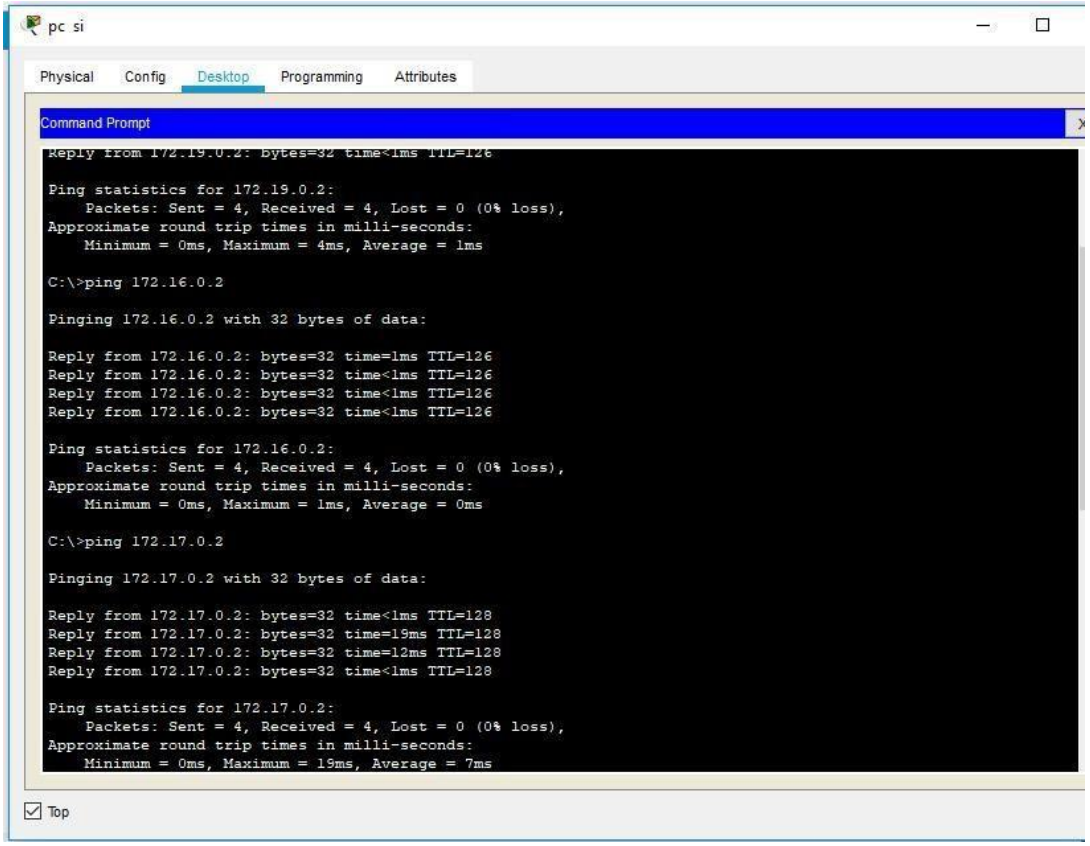
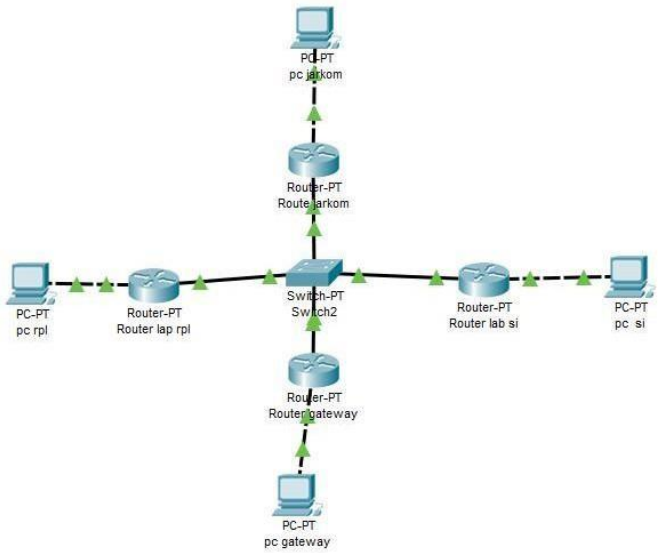
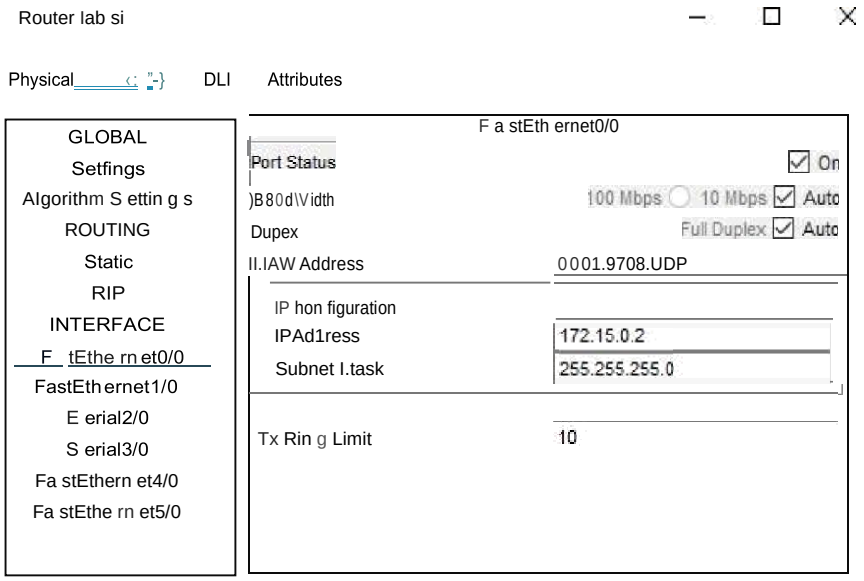


2. Assignment





Equivalent IO * C a mman Js

chsngei stste t: uy

Roucer:enahle
âouter#
âcuter#configure terminal
enter configuration cosonands, one per line. :nd with CHIL.ZZ.
âouter{con?ig)#inter*ace Festotherneto/O
9cuter{ccn:ig-iJ)#

Router GATE\YAY1

Physical Config CLI Attributes

IOS Command Line Interface

```
 LINiPAOIO-9-UPZ0WW: Line protocol on Interface Fast=thernetJ/O,
changed state to up


Router>en
Router#show ip route
Codes: C - connected, S - stetic, I - IGMP, fl - AIP, N - mcbile, B -


       N ' ' SP 'N SA    e   l"typ  l  N   'OSPF NS      e a 'type •
                      rl                          "  t
       i - IS-IS, Ll - IS-IS IeveI-l, Li - IS-IS Ievel-?, ia - IS-IS

       * - candidate default, U - per-user static route, o - ODS
       P - periodic dcwnloaded static route

Gateway of last resort is not set

     Iz.13.0.0/c4    is subnetted, l subnets
C       172.15.0.0 is directlY connected, FastBthernetJ/J
     let.lé.'J.'J.Y?is subnetted, l subnets



     l Z.19.J.J./?4 is subnetted, l subnets
C       172.19.0.0 is directly connected, FastEthernetl/0
```

Ctrl+F6 to exit CLI facus Copy Paste

@ Router LAB 511

Physical Config Attributes

l0SComrsétnñTer(sce

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -

       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area


    i - is-is. si - is-is refer-i. z: - zs-is refer-z, ia - is-zs
inner area
     ' - candiAaze ae•ault, U - per-user szazic roure. c - ODS


Gateway of last resort is not set

     l I li '.' J.£4 is subnetted. l subnets


S       172.16.0.0 [1/0] via 172.15.0.1
     172.17.0.0/24 is subnetted, l subnets
C    l"..l".›.*.'.› is directly conneoved, Fasz•thernev1.".'
     172.18.0.0/16 is variably subnetted, 2 subnets, 2 masks

FastEthernet0/0
S       172.18.0.0/24 [1/0] via 172.15.0.3
      ?.l?.*-' *.* l£ is °'ariably subnetted, ? sVnets, ? masks


Router#
```

@ Routejarkom(1}

Physical Config CLI Attributes

10 S Comman d Line Interfa ce

```
jarkom>en

Codes: C - connected, S - static. I - UDP, 9 - SIB, H - mcbile, B -
AGP
       D - iIGRP, oX - oIGRP external, O - OSPF, IA - OSPF inter area
       Nl - OSEF NSSA external  type l, NI - OSEF NSSA external  type £
       =l - OSPF external type 1. =I - OSEF external type Z, : - OGP
       i - IS-IS, Ll - IS-IS level-l, L= - IS-IS level-=, ia - IS-IS

       *' - candidate default, U - per-user static rcute, o -  ODS
       E - periodic aownloa3ed static route

Gateway of last resort is not set

     172.15.0.0/24 is subnetted, l subnets
        172.15.0.0 is directly connected, FastEthernet0/0

C       l 2.lf.0.0 is directly connected, Fast:thernetl/0

S

S       172.18.0.0 [1/0] via 172.15.0.3

S       172.19.0.0 [1/0] via 172.15.0.4
```

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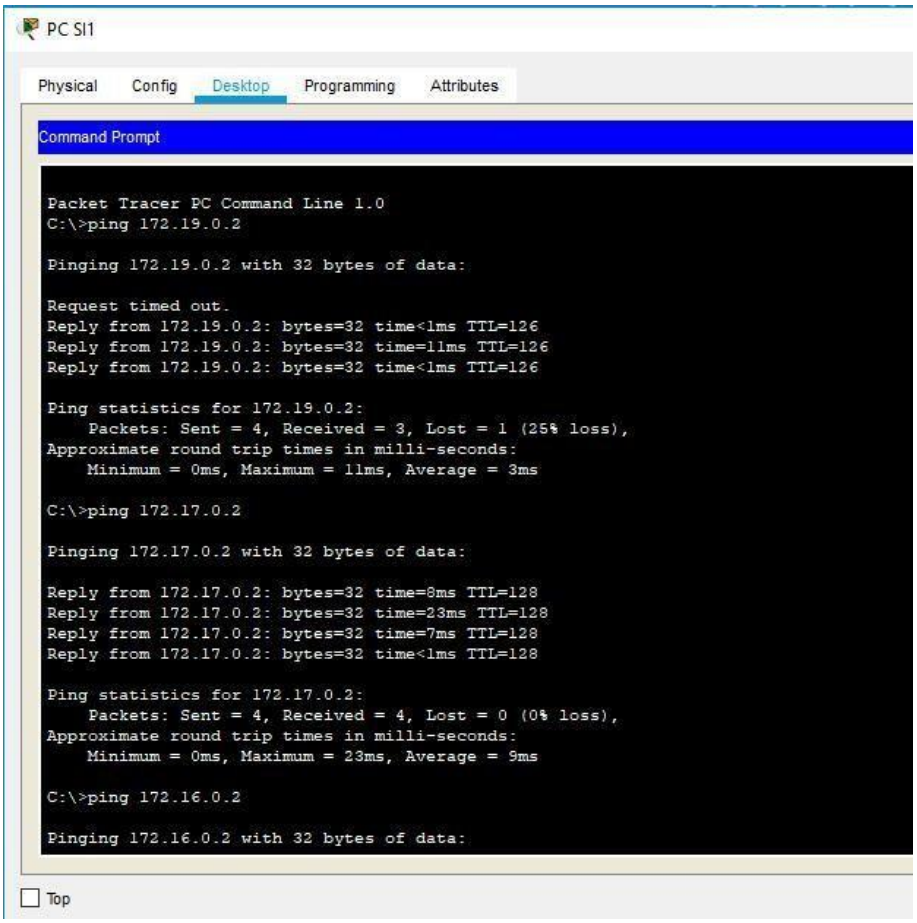
Router RPL

```
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
         - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route


     172.15.0.0/24 is subnetted, l subnets

     172.16.0.0/24 is subnetted, l subnets

     172.17.0.0/16 is variably subnetted, 2 subnets, 2 masks

S       172.17.0.0/24 [1/0] via 172.15.0.2
     172.18.0.0/24 is subnetted, l subnets
C       172.18.0.0 is directly connected, FastEthernet1/0
     172.19.0.0/16 is variably subnetted, 2 subnets, 2 masks
R       172.19.0.0/16 [120/1] via 172.15.0.4, 00:00:09, FastEthernet0/0
```

Top


PC SI1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 172.19.0.2
Pinging 172.19.0.2 with 32 bytes of data:
Request timed out.
Reply from 172.19.0.2: bytes=32 time<1ms TTL=126
Reply from 172.19.0.2: bytes=32 time=11ms TTL=126
Reply from 172.19.0.2: bytes=32 time<1ms TTL=126
Ping statistics for 172.19.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 11ms, Average = 3ms
C:\>ping 172.17.0.2
Pinging 172.17.0.2 with 32 bytes of data:
Reply from 172.17.0.2: bytes=32 time=8ms TTL=128
Reply from 172.17.0.2: bytes=32 time=23ms TTL=128
Reply from 172.17.0.2: bytes=32 time=7ms TTL=128
Reply from 172.17.0.2: bytes=32 time<1ms TTL=128
Ping statistics for 172.17.0.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 23ms, Average = 9ms
C:\>ping 172.16.0.2
Pinging 172.16.0.2 with 32 bytes of data:
Top