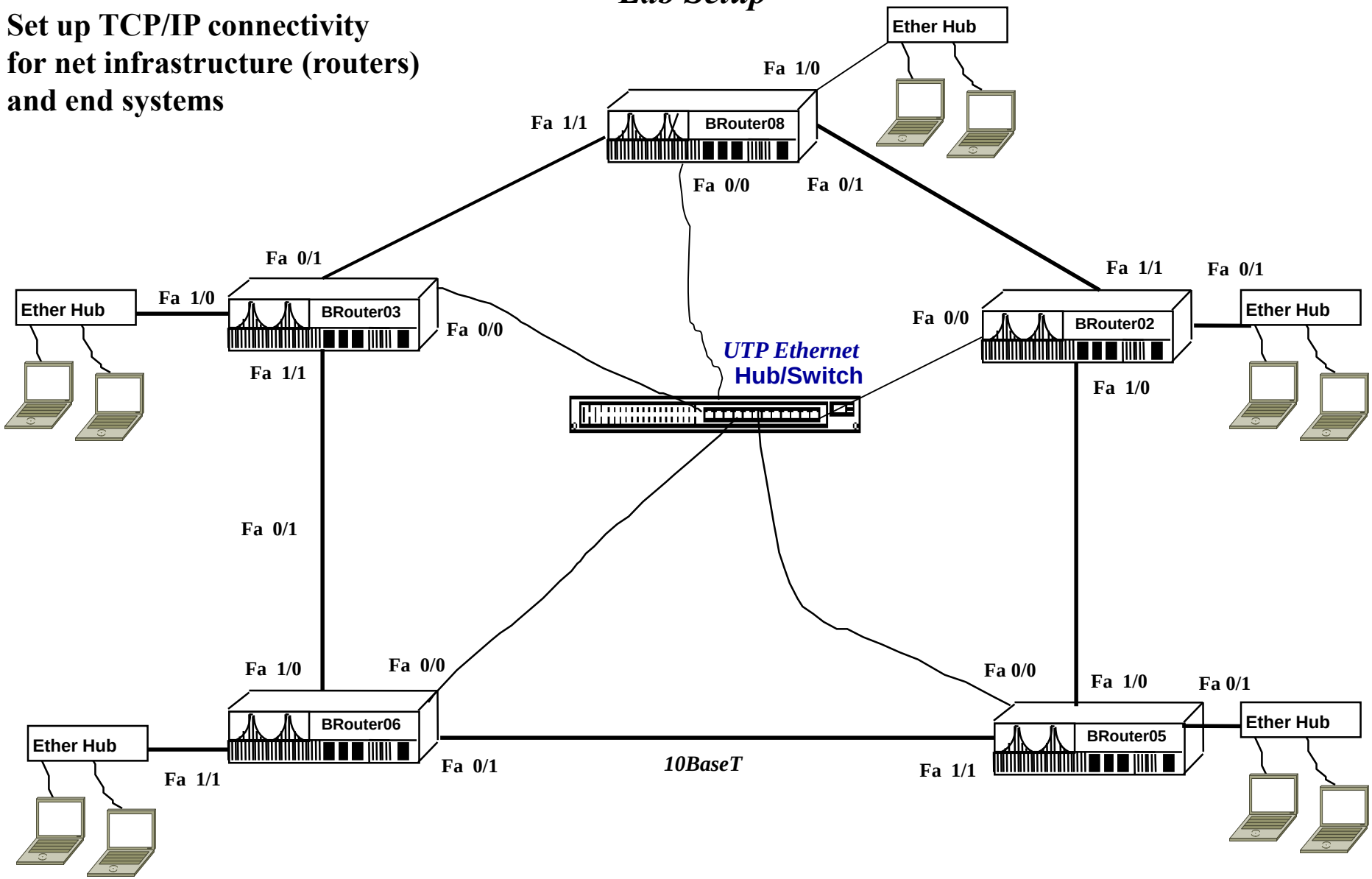
i341 TCP/IP Routing Lab Topology

Lab Objective:

Set up TCP/IP connectivity for net infrastructure (routers) and end systems

Facing WhiteBoard - Front of Class

Lab Setup



Rev: October, 2016

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Facing WhiteBoard - Front of Class

Step 1:

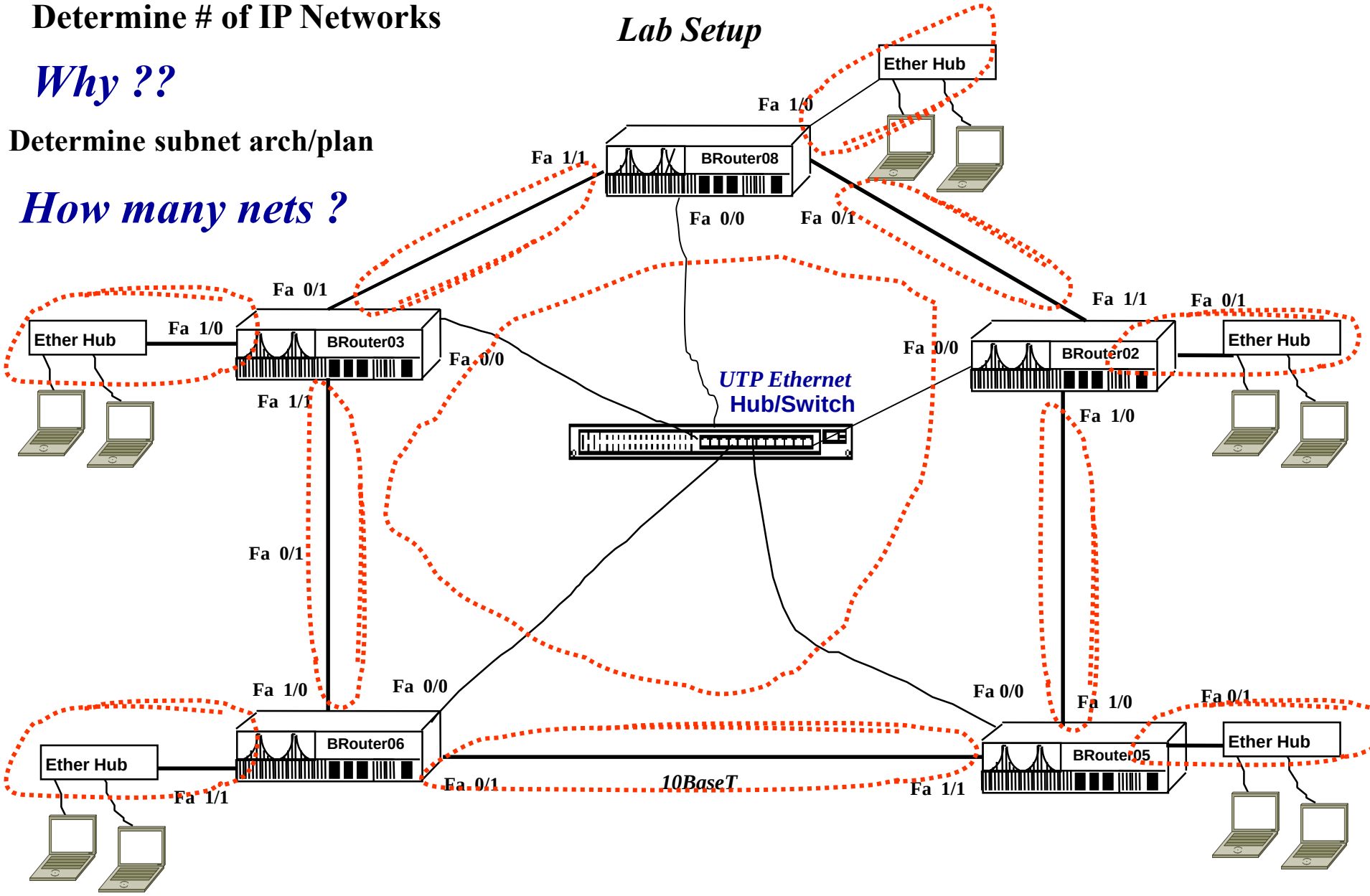
Determine # of IP Networks

Why ??

Determine subnet arch/plan

How many nets ?

Lab Setup



Network to Subnet

155.1.0.0

Normal Subnet mask

155.1.0.0 /16

Subnet mask = 255.255.0.0

Lets Make 155.1.0.0 /24

New Subnet Mask ?

255.255.255.0

How many subnets - devices per subnet ?

Subnet Application

Available Subnets ??

155.1.1.0
155.1.2.0
155.1.3.0
155.1.4.0
155.1.5.0
155.1.5.0
155.1.6.0
155.1.7.0
155.1.8.0
155.1.9.0
155.1.10.0
155.1.11.0
155.1.12.0
.
.
.
155.1.254.0

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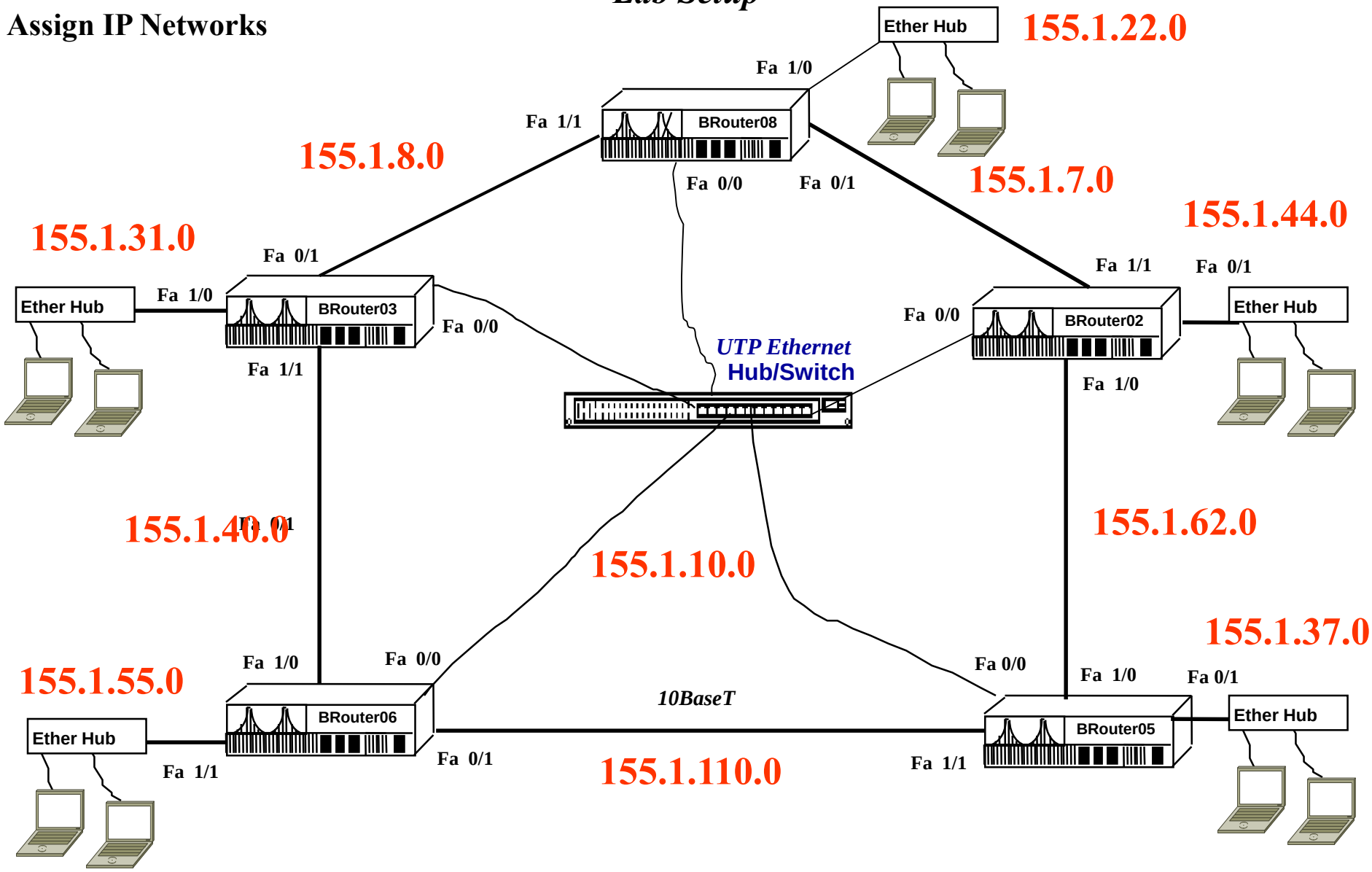
Facing WhiteBoard - Front of Class

Step 2:

Assign IP Networks

Lab Setup



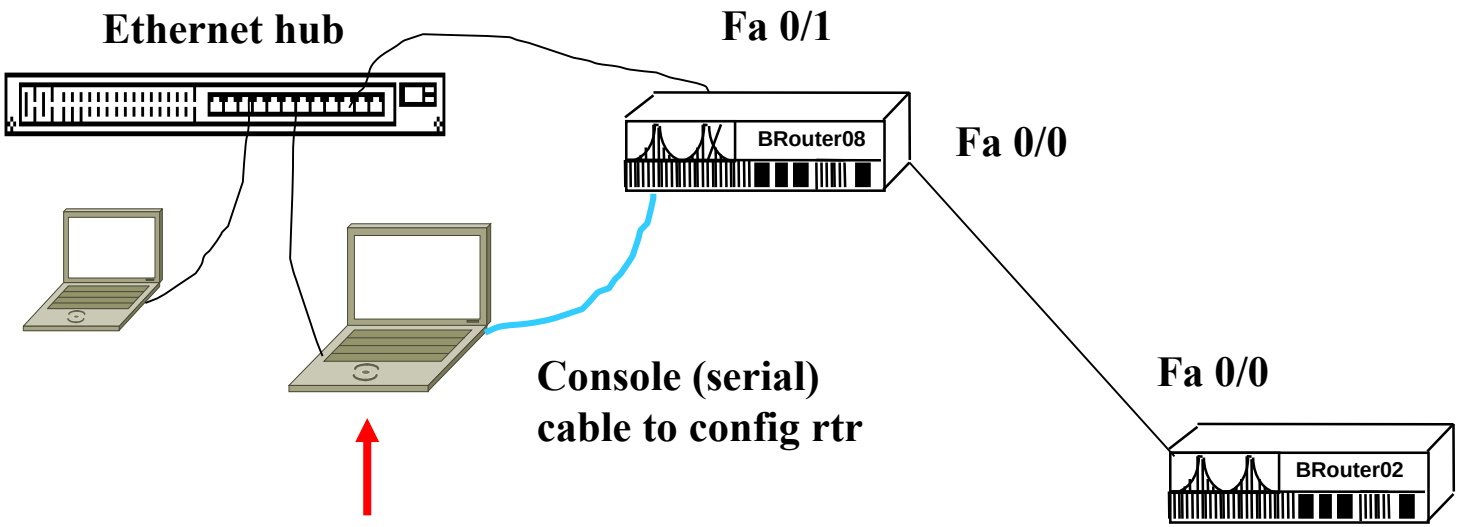
Router pictures to help understand physical interfaces

Pic of Router from Front

Pic of Router from back, these are router Ethernet interfaces

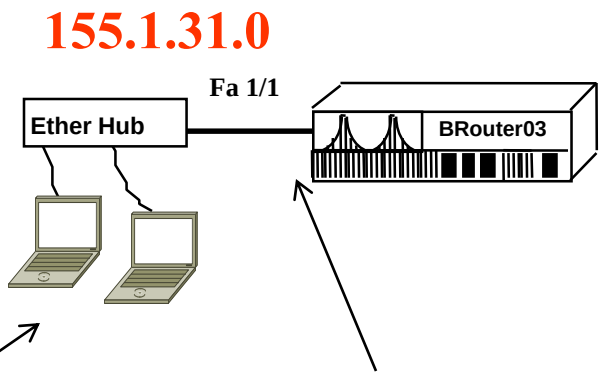
Serial (console) cable

physical interface connections for labs



Note physical connections: each group needs to have laptop connected serially to router to configure it, and same laptop has Ethernet connection to test Ethernet/IP

IP Addressing Example



Step 2 ????

Address End Systems

155.1.31.11 /24
155.1.31.12 /24

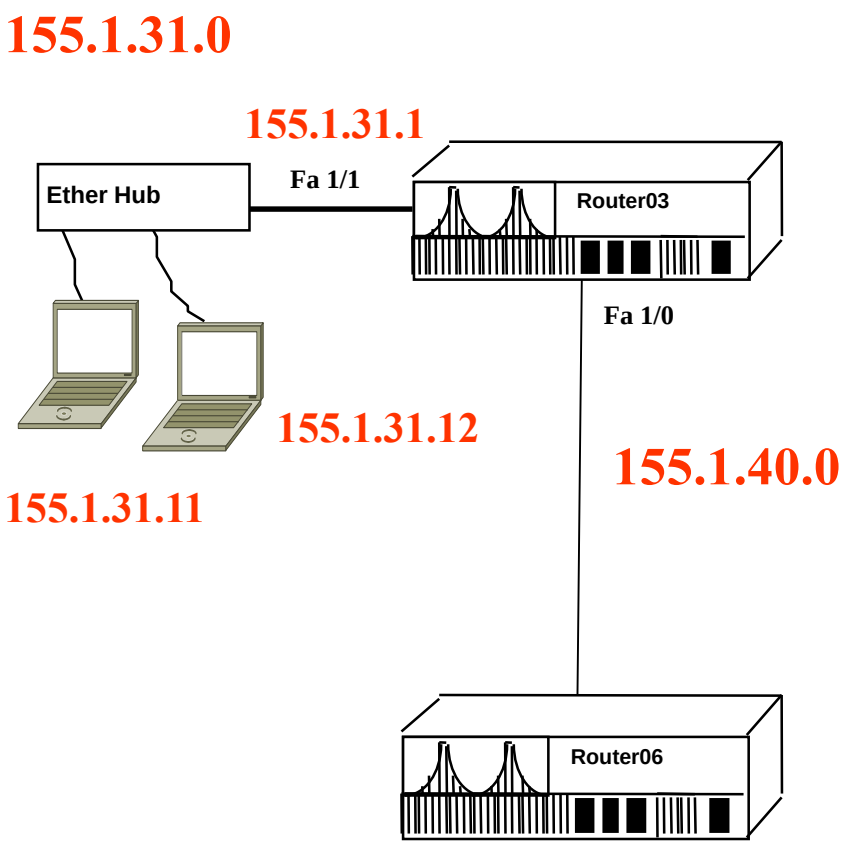
Step 1 ????

Router IP addressing

Interface Fastether 1/1 (physical int)

IP address 155.1.31.1 255.255.255.0
Ip broadcast-add 155.1.31.255
EXACT SYNTAX REQUIRED ! !

IP Addressing Example - 2



Router2 config

Int Fastether 1/0
IP add 155.1.40.3 255.255.255.0
ip broadcast-add 155.1.40.255

Int Fastether 1/1
IP add 155.1.31.1 255.255.255.0
ip broadcast-add 155.1.31.255

LAB #4 - Due 11/4/16 11pm (to Canvas)

1. Pick any 2 routers on lab topology

2. Provide configs for ALL router interfaces in your lab
   (based on 2 examples provided)

LATE SUBMITTALS – POINTS LOST