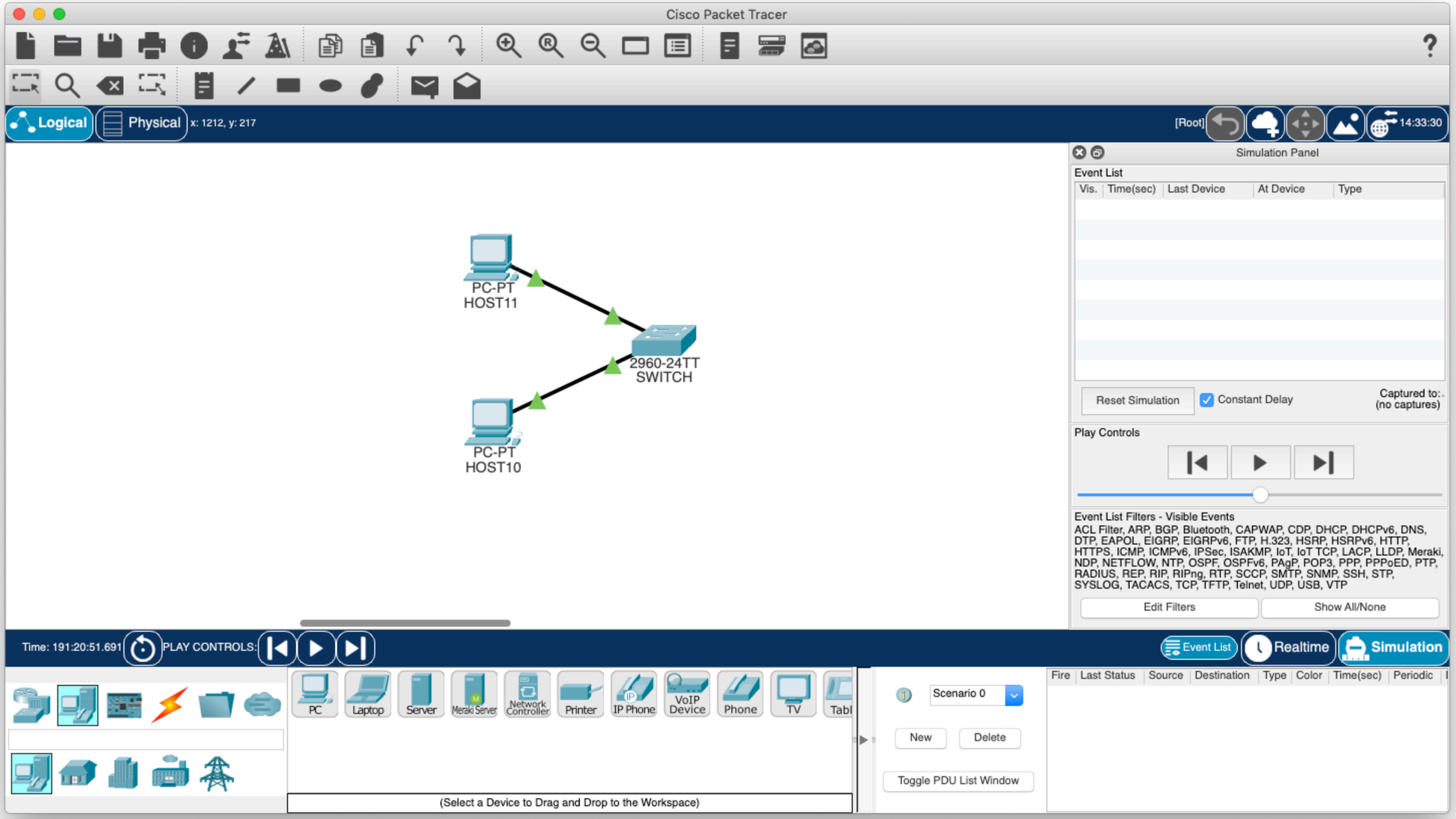
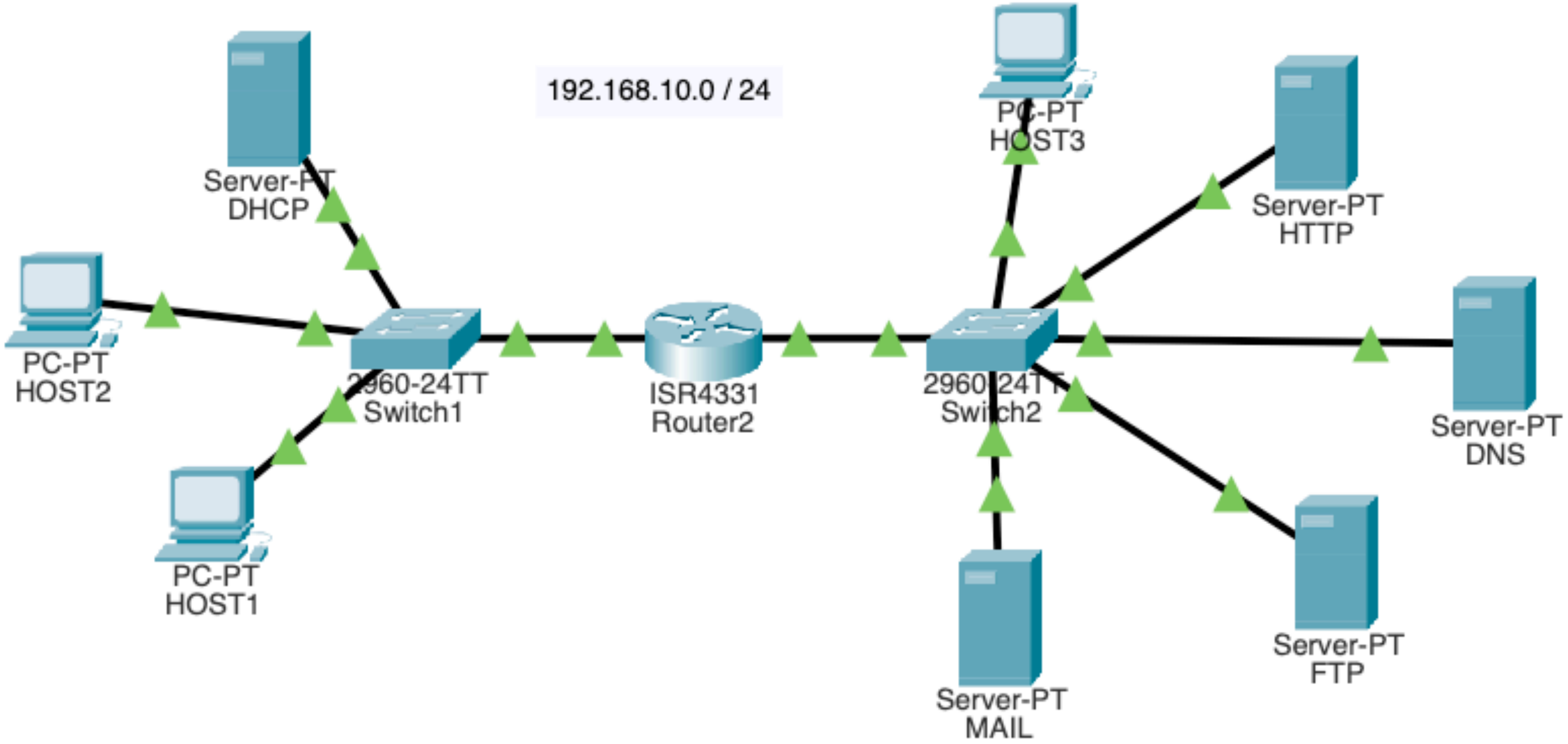
Computer Networks
week 12. Enterprise network.

Packet Tracer is a cross-platform visual simulation tool that allows users to create network topologies and imitate modern computer networks.

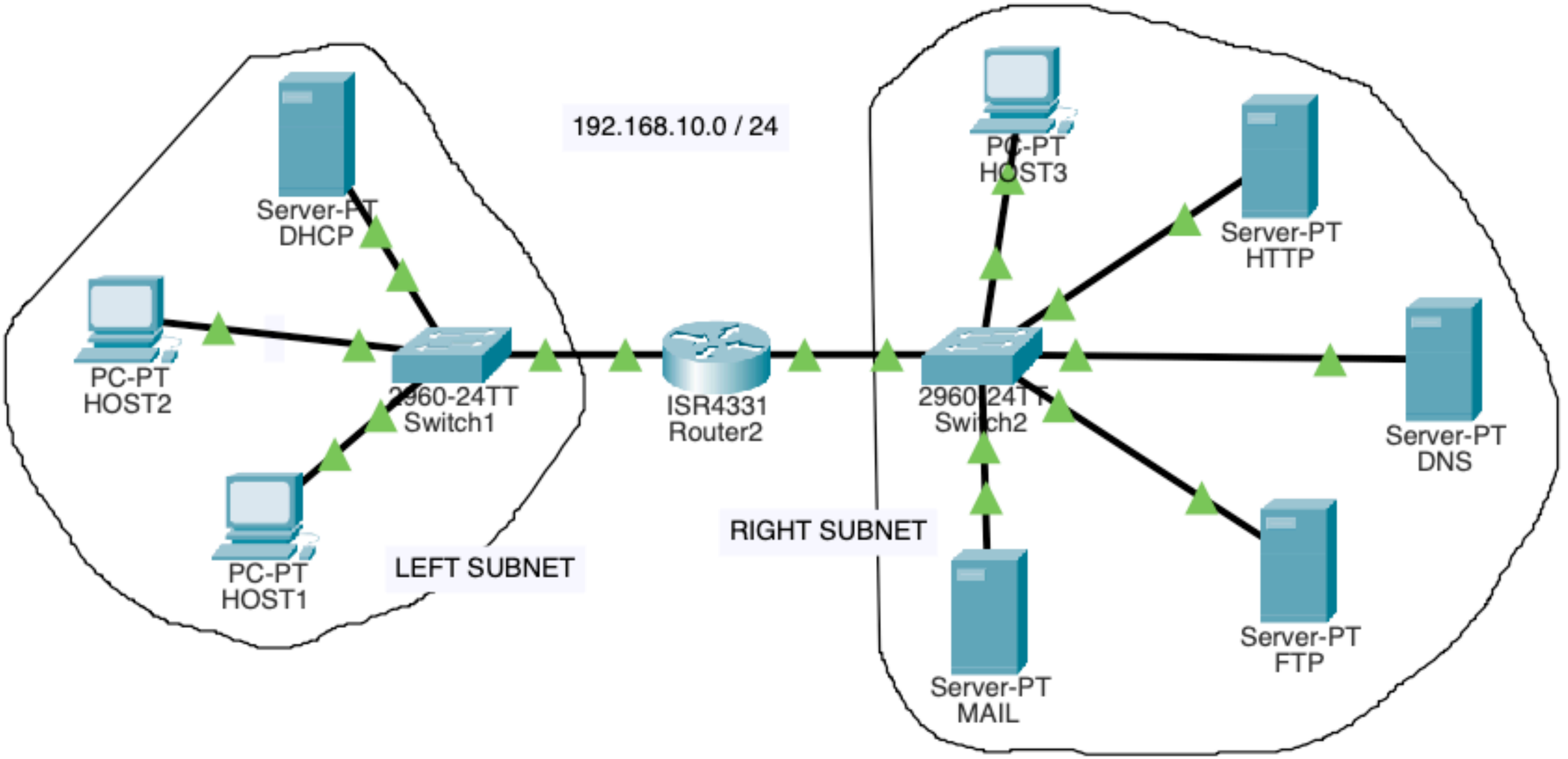


Design an architecture

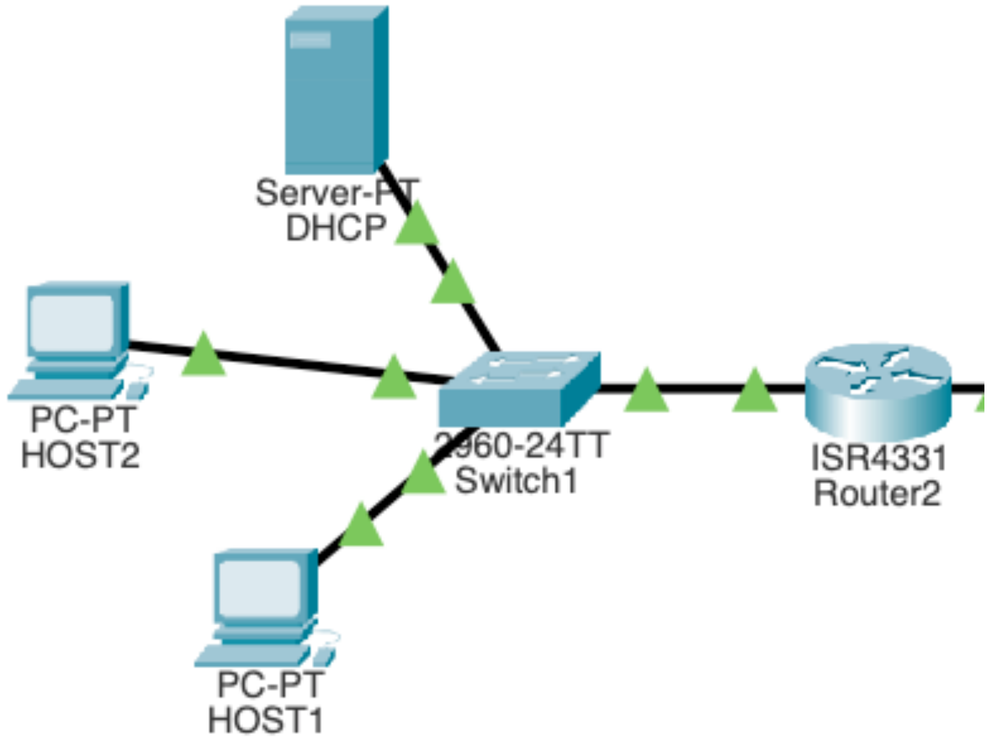


TASK 1. Divide network into 2 subnets: LEFT and RIGHT

Select a suitable subnet mask, calculate subnet addresses, ip addresses range inside each subnet



TASK 2. Configure the LEFT subnet

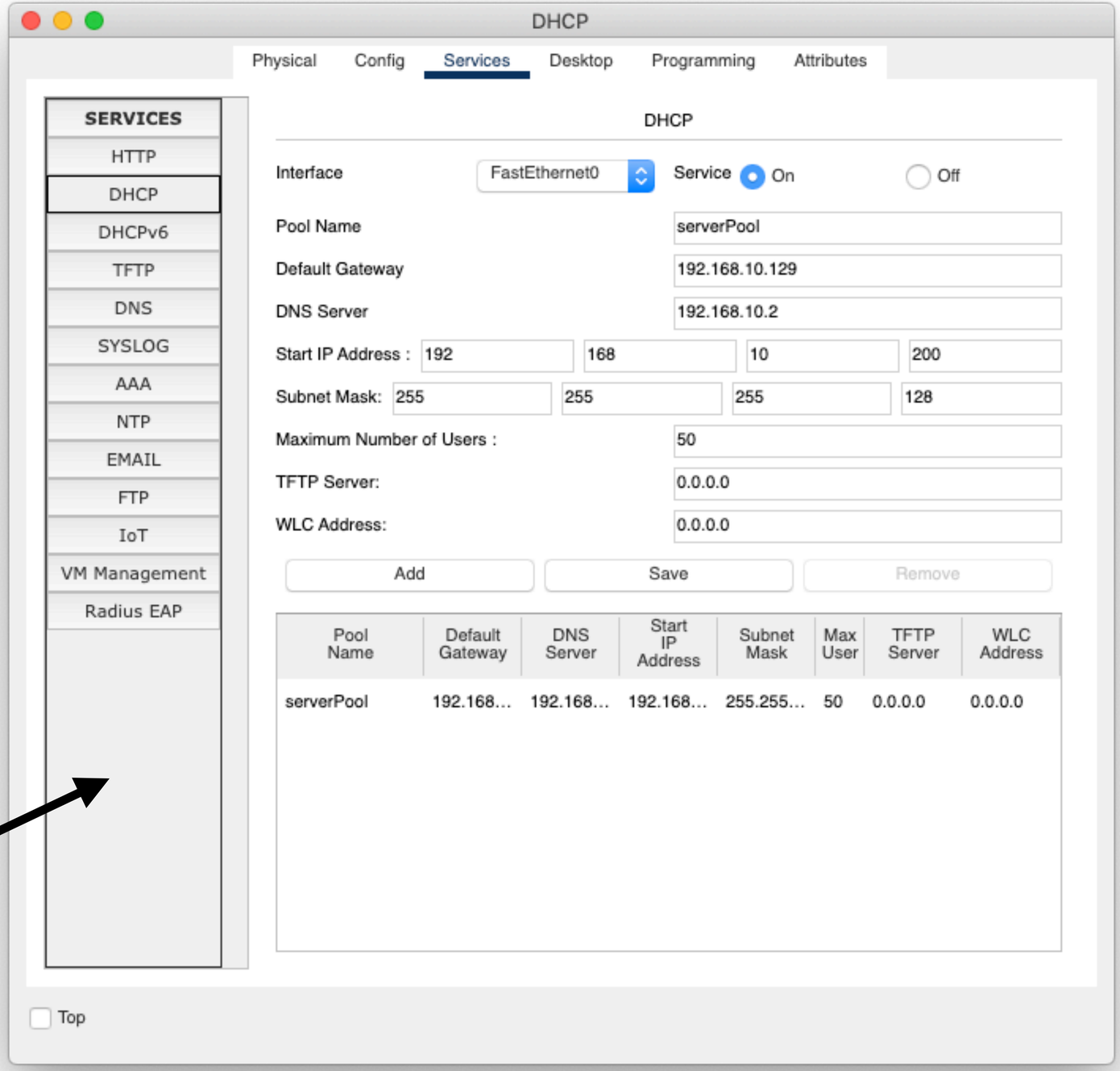


1. Add Router ISR 4331. Router will join LEFT and RIGHT subnets. Assign IP address and subnet mask.
2. Add Switch 2960.
3. Add server and Configure DHCP protocol.
4. Add PC hosts. Assign IP addresses using DHCP server.

TASK 3. Configure DHCP server

1. Default Gateway
2. DNS Server
3. Start IP Address
4. Subnet Mask
5. Maximum Number of Users

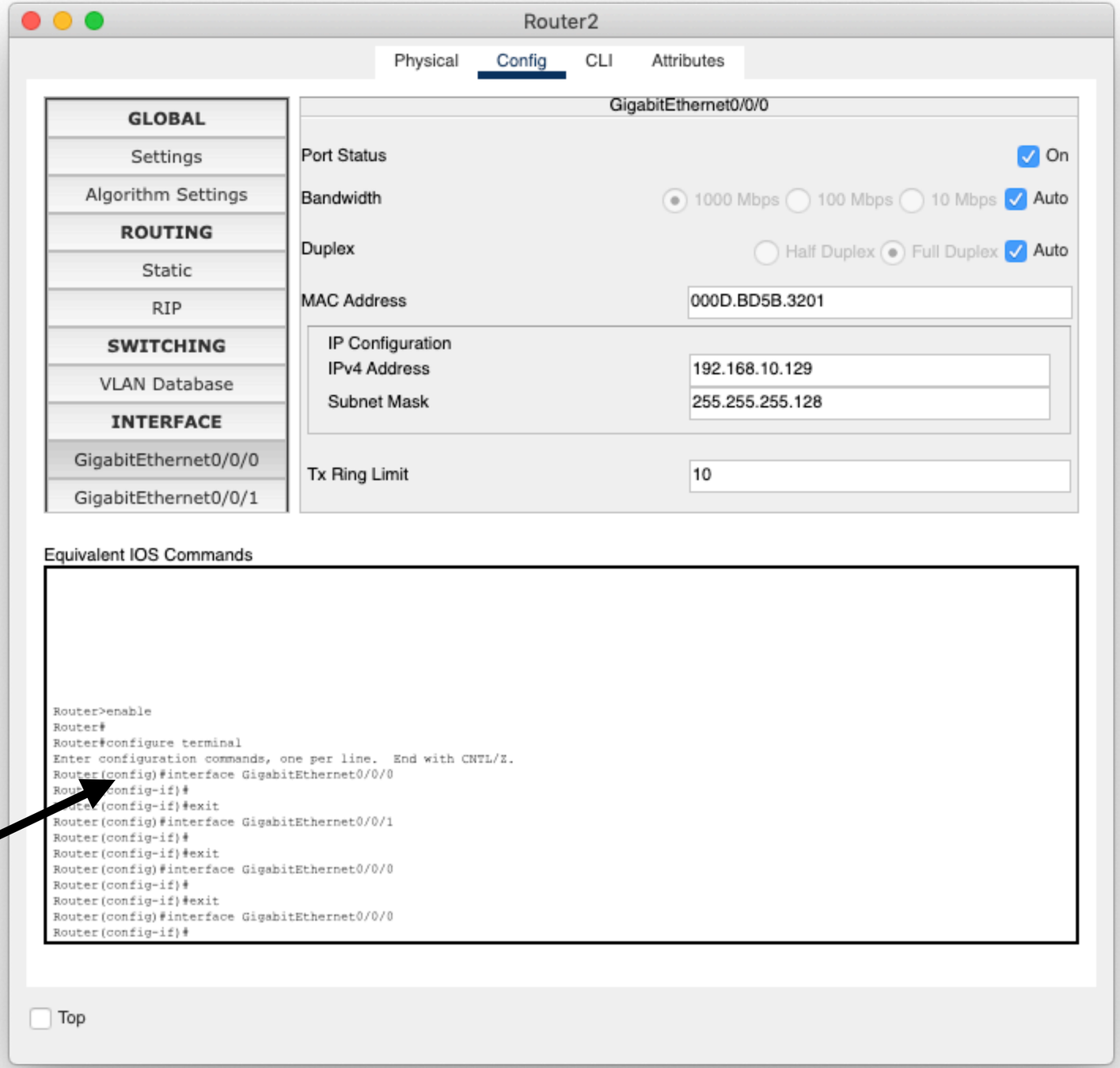
example



TASK 4. Configure the Router

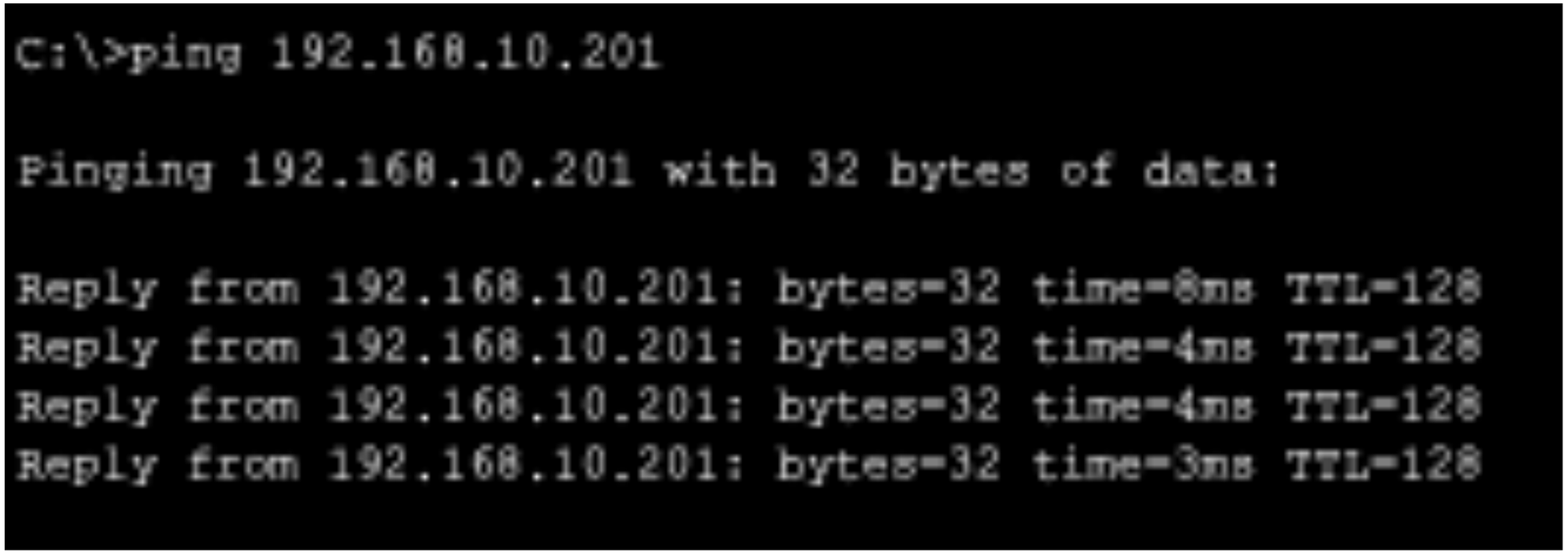
1. The first interface must ‘belong' to the left subnet
2. The second interface must ‘belong' to the right subnet

example



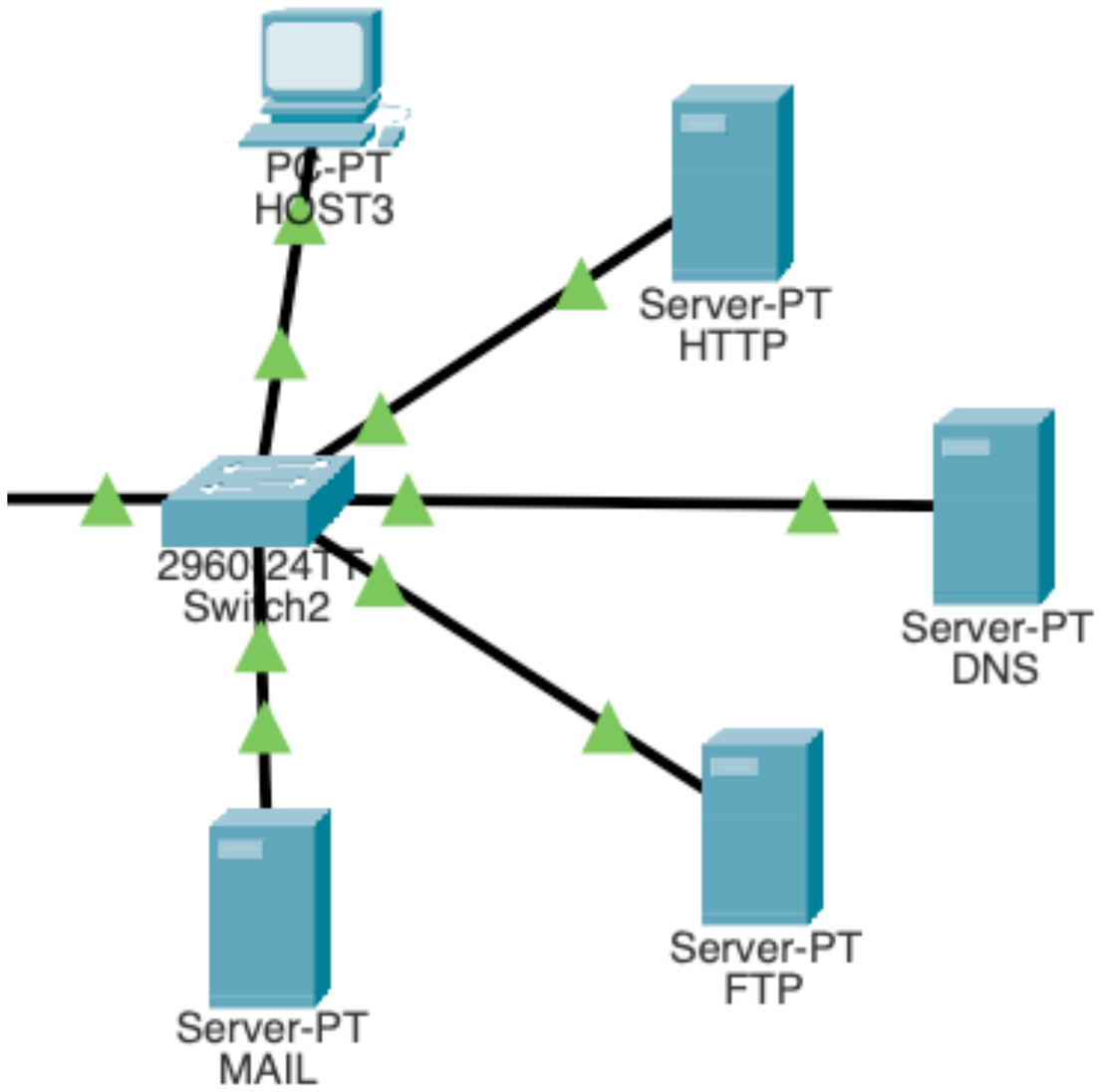
TASK 5. Check connections

1. Send ICMP request from server to gateway;
2. Send ICMP request from clients to DHCP server;
3. Send ICMP request from clients to gateway;



TASK 6. Configure the RIGHT subnet

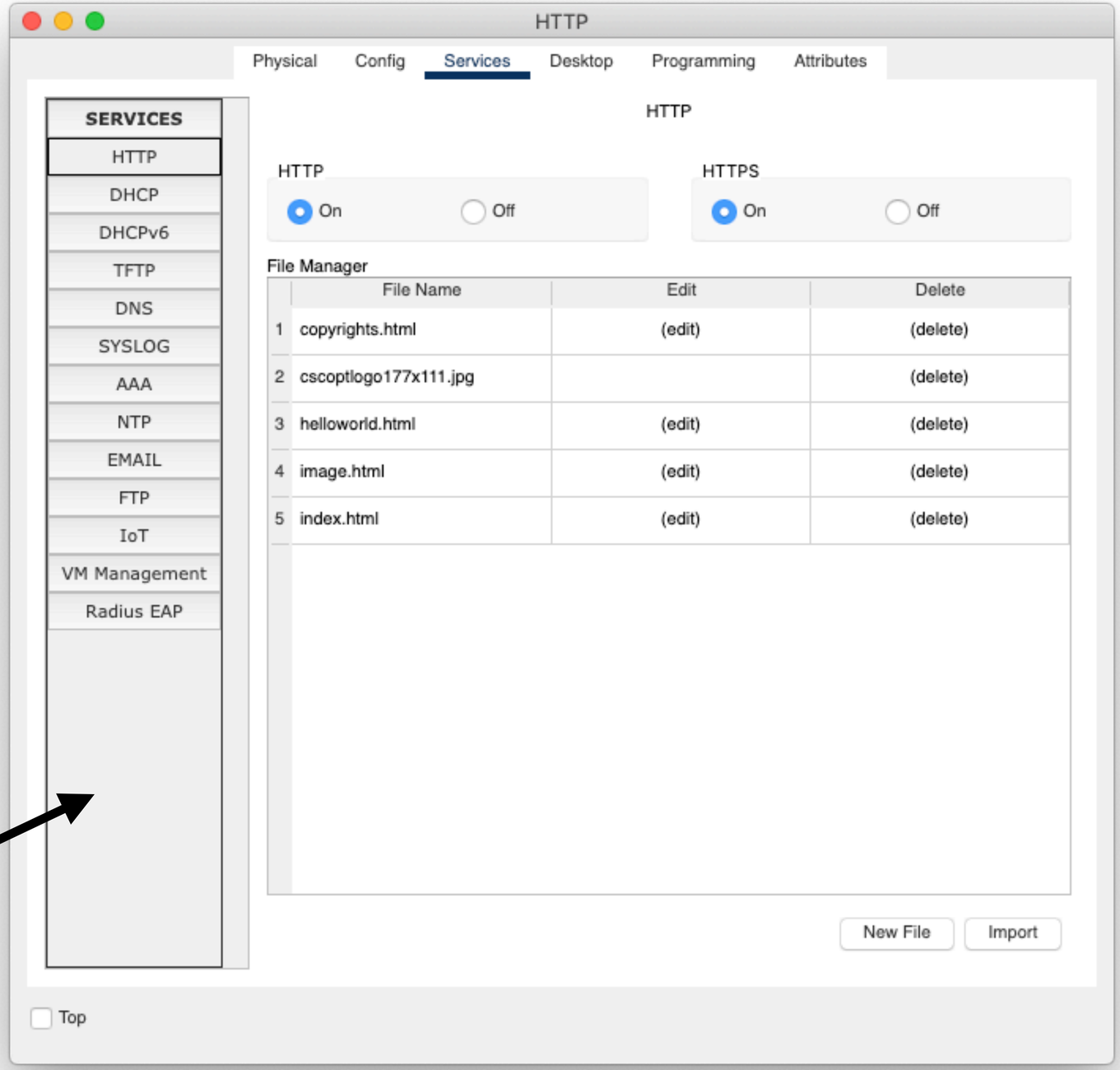
1. Add Switch 2960.
2. Add PC HOST 3. Assign IP address, mask, default gateway and default DNS.
3. Configure HTTP server.
4. Configure DNS server.
5. Configure FTP server.
6. Configure MAIL server



TASK 7. Configure HTTP server

1. Edit index.html file. Put some information there
2. Create new .html file and include the link into index.html

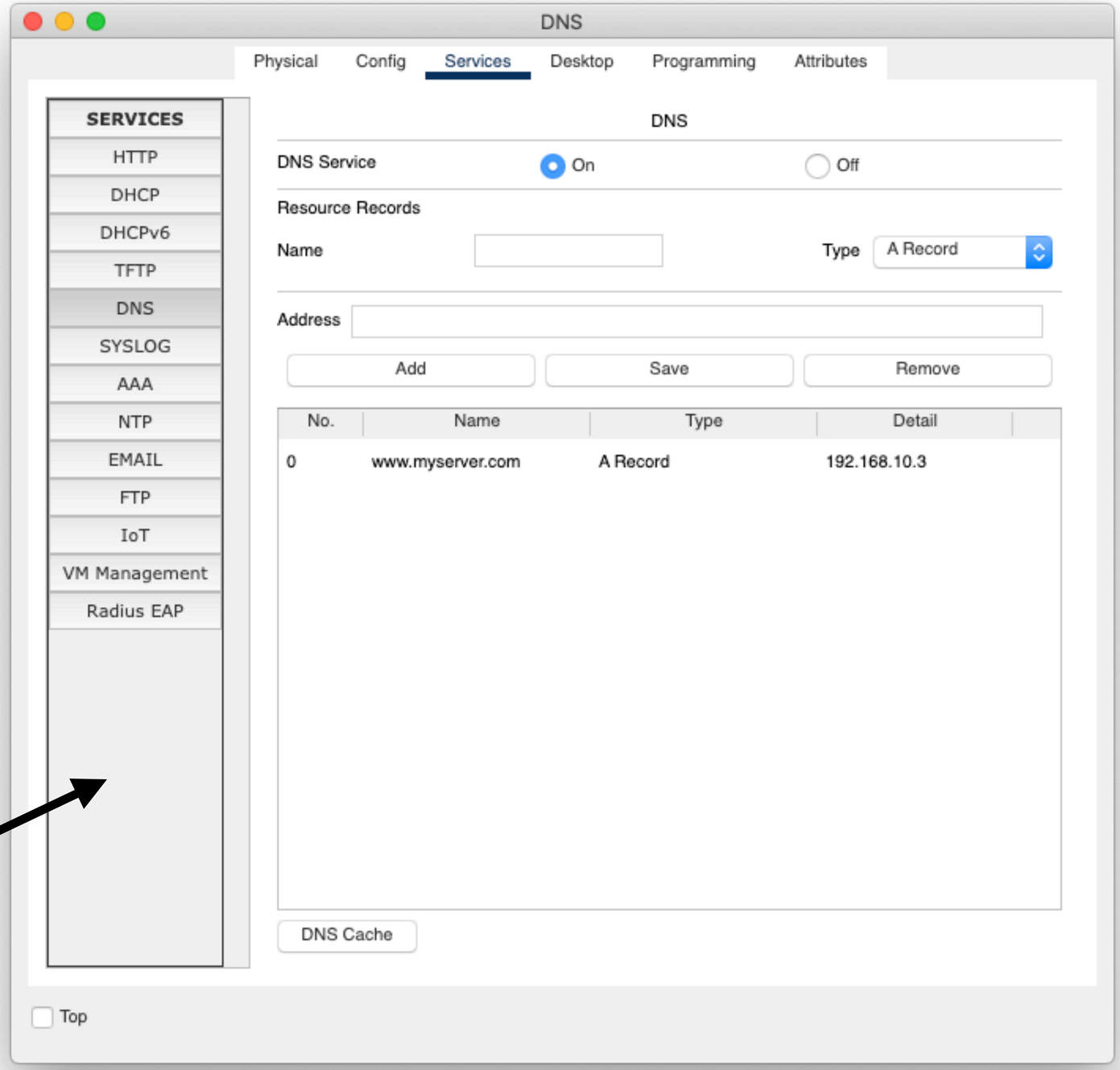
example



TASK 8. Configure DNS server

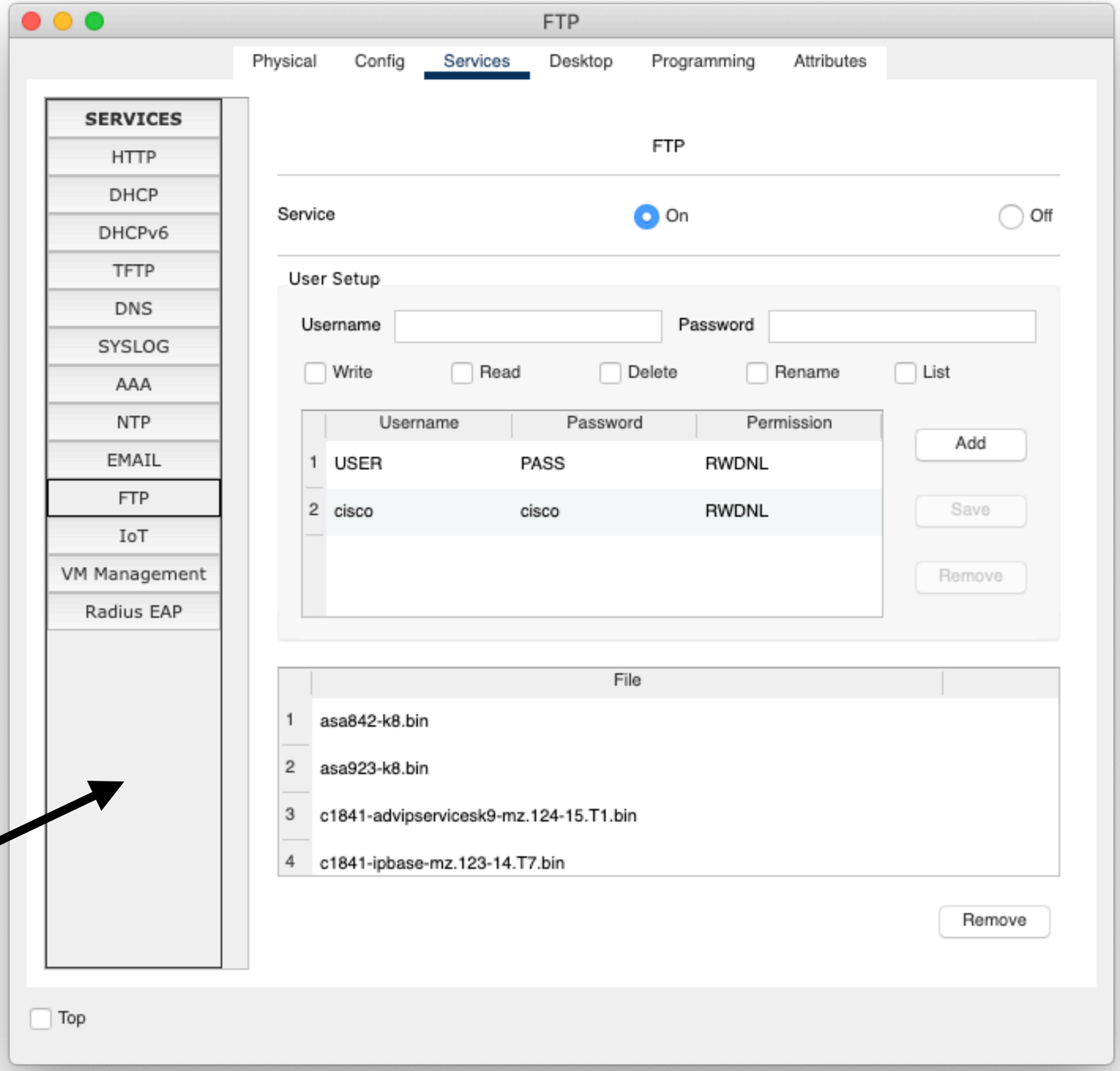
1. Choose a domain name for your HTTP server
2. Choose a domain name for your MAIL server
3. Choose a domain name for your FTP server

example



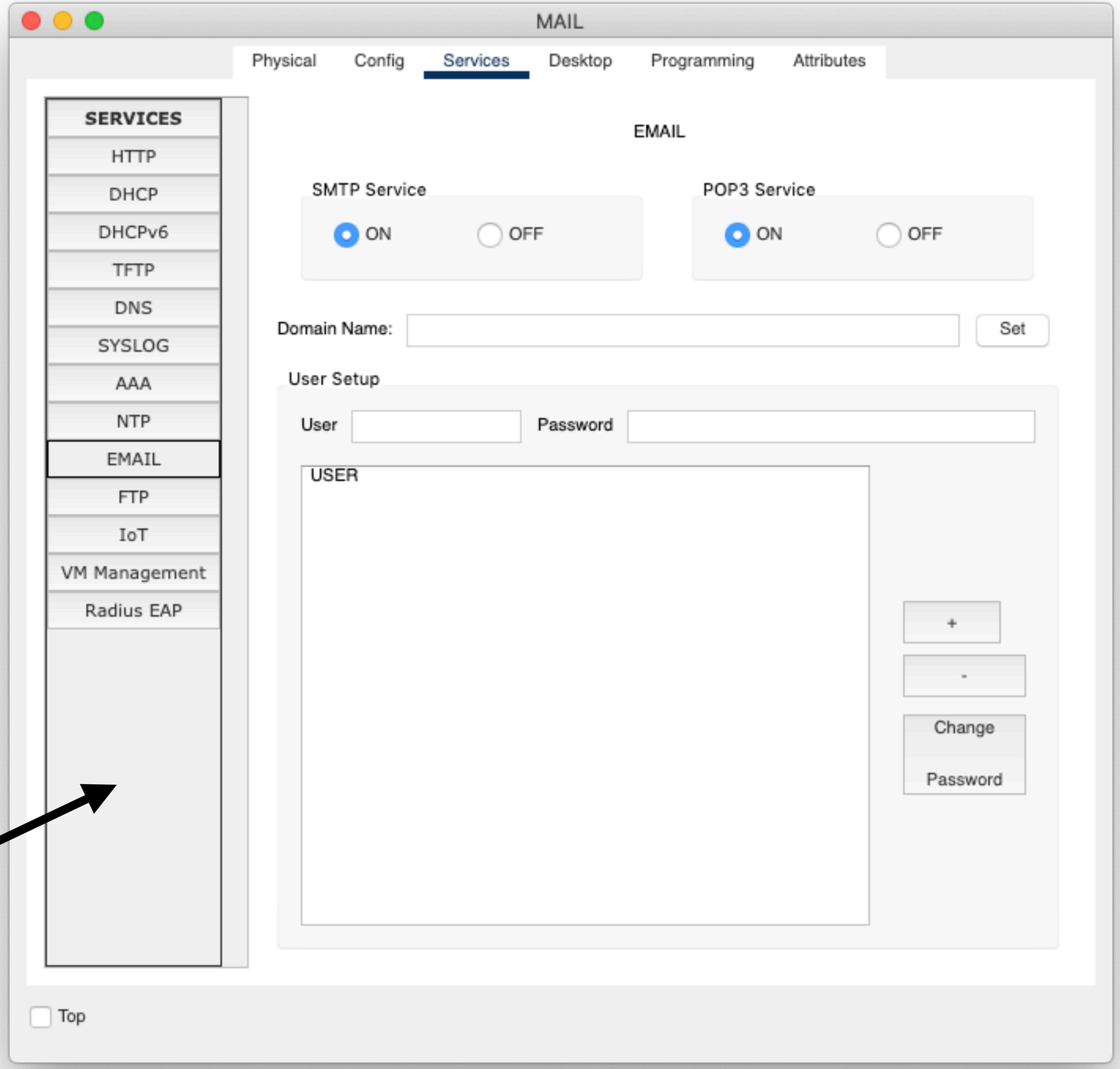
TASK 9. Configure FTP server

example



TASK 10. Configure MAIL server

example



TASK 11. Check connections

1. Open the web page from clients web-browser;
2. Download file from FTP server;
3. Send email from one client to another